



“When You Talk - We Listen!”



MANITOBA PUBLIC UTILITIES BOARD

Re:

MANITOBA HYDRO
NEEDS FOR AND ALTERNATIVES TO
REVIEW OF MANITOBA HYDRO'S
PREFERRED DEVELOPMENT PLAN

Regis Gosselin	- Chairperson
Marilyn Kapitany	- Board Member
Larry Soldier	- Board Member
Richard Bel	- Board Member
Hugh Grant	- Board Member

HELD AT:

Public Utilities Board
400, 330 Portage Avenue
Winnipeg, Manitoba

May 13, 2014

Pages 10534 to 10759

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1	LIST OF EXHIBITS		
2	NO.	DESCRIPTION	PAGE NO.
3	PUB-70	Canadian Environmental Assessment	
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1	LIST OF UNDERTAKINGS		
2	NO.	DESCRIPTION	PAGE NO.
3	147	Whitfield Russell Associates to	
4		provide a copy of the April 17,	
5		2014, article from Megawatt Daily	10723
6	148	Whitfield Russell Associates to	
7		determine whether or not there is	
8		information available that would	
9		explain the third bullet on slide 41	
10		where Minnesota utilities have	
11		petitioned the Minnesota PUB to	
12		consider a competing alternative	
13		and, in looking to see what that	
14		information is, whether there is	
15		any indication as to whether a	
16		financial contribution from	
17		Manitoba Hydro would be part of	
18		that	10731
19	149	Whitfield Russell Associates to	
20		advise whether or not NERC has	
21		provided an opinion on whether the	
22		SPS qualifies under Footnote B	10746
23			
24			
25			

1 --- Upon commencing at 9:04 a.m.

2

3 THE CHAIRPERSON: Good morning. I
4 believe that everybody's in position to commence
5 today's proceedings. Now, before we start, I'll turn
6 the microphone over to Mr. Peters, please.

7 MR. BOB PETERS: Thank you. Good
8 morning, Mr. Chairman, panel members, ladies and
9 gentlemen. On March the 3rd, 2014, many of us had
10 today circled on our calendars. And I want Ms.
11 Saunders and Mr. Marques to think it was because of
12 them, but today is also the last scheduled day of
13 evidence before the panel, if I need to remind anybody.
14 But on this day we're pleased to have the Manitoba
15 Metis Federation's witnesses from Whitfield Russell
16 Associates. And I'll leave that My Friend, Mr. Marques
17 and Ms. Saunders, to introduce in a few minutes.

18 But before they do, there's a couple of
19 matters of housekeeping that I would like to attend to.
20 Yesterday, the Clean Environment Commission's -- that's
21 the Manitoba Clean Environment Commission's report on
22 Keeyask was made as an exhibit, number PUB-69. And the
23 parties should also be aware that on April the 23rd,
24 after the Easter weekend, the federal Canadian
25 Environmental Assessment Agency also released its

1 comprehensive study report on Keeyask. And that
2 document is essentially the federal -- the federal
3 counterpart to the CEC report on Keeyask.

4 So anticipating that the parties will
5 want to make reference to that document in their
6 submissions, I propose that we have that document filed
7 on the record, as well. And it could be made PUB
8 Exhibit 7-0, 70, if the -- if the secretary concurs.

9 MR. KURT SIMONSEN: I concur. Thank
10 you.

11

12 --- EXHIBIT NO. PUB-70: Canadian Environmental
13 Assessment Agency's
14 comprehensive study report
15 on Keeyask

16

17 MR. BOB PETERS: And there's one (1)
18 other matter of business. And I'll perhaps look to My
19 Friend opposite, Ms. Ramage. We received by email a
20 few days ago the rebuttal evidence -- written rebuttal
21 evidence from Manitoba Hydro in respect of Whitfield
22 Russell Associates's evidence. And that should be
23 marked as an exhibit. And subject to concurrence, it
24 could be marked as Exhibit 85-2 because 85-1 -- I'm
25 sorry, it's -- I'll suggest it be marked as Exhibit 85-

1 1.

2 MR. KURT SIMONSEN: Sure.

3

4 --- EXHIBIT NO. MH-85-1: Evidence of Whitfield

5 Russell Associates

6

7 MR. BOB PETERS: And that'll just be a
8 reminder to parties that Exhibit MH-85 was the rebuttal
9 evidence filed by Manitoba Hydro earlier.

10 So with those matters, Mr. Chairman, I'm
11 not aware of any other matters. I would suggest that
12 it could be turned over to Ms. Saunders and Mr. Marques
13 to introduce their witnesses, and we can proceed.
14 Thank you.

15 THE CHAIRPERSON: Thank you, Mr.
16 Peters.

17 Mr. Marques, Ms. Saunders, good morning.

18 MR. TONY MARQUES: Oh, I'm sorry. I'm
19 not used to having to turn on a microphone. Good
20 morning. Yes, we would like to proceed this morning.
21 We have a PowerPoint presentation which has been given
22 to the secretary. We made copies available to the
23 parties. I believe that will be Exhibit 31.

24 MR. KURT SIMONSEN: That's correct,
25 MMF-31.

1 --- EXHIBIT NO. MMF-31: PowerPoint presentation

2

3 MR. TONY MARQUES: Thank you. And
4 we've already taken care of the Hydro rebuttal.

5

6 MOTION:

7 MS. PATTI RAMAGE: Mr. Chairman, I'm --
8 I'm dealing in uncharted waters at this point, so
9 you're -- I'm going to beg your indulgence. In my time
10 at the Board, I've -- I've never -- I have never done
11 this before or made a motion with respect to a party's
12 PowerPoint presentation.

13 And I'm not sure, and I look to Mr.
14 Peters for -- to tell me where this comes in. Manitoba
15 Hydro has concerns with this presentation. We're of
16 the view that sections of it are in breach of the
17 Board's Order 22/'14 and are dealing directly with the
18 Bipole III issue.

19 And at some point in the proceeding, and
20 I'm not sure whether it occurs at this point when the
21 exhibit is filed, whether it occurs after the
22 qualifications of the witness, or -- or where is the
23 best point, we would like to speak to those portions
24 which we believe should be struck, consistent with the
25 Board's Order in 22'/14, to ensure consistency with

1 that direction of the Board.

2 THE CHAIRPERSON: Thank you, Ms.

3 Ramage.

4 Mr. Peters, can you provide me with some
5 guidance here?

6 MR. BOB PETERS: I will attempt to
7 assist, Mr. Chairman. Just by way of background, the
8 terms of reference from the provincial government to
9 this Board indicated that there were certain matters
10 that were not in scope. One (1) of those matters that
11 was not in scope was the Bipole III project, as it was
12 -- as it was called in the terms of reference.

13 Now, that in itself doesn't suggest that
14 Bipole III hasn't been the subject of some discussion
15 at the hearing. But, in short, the decision on whether
16 or not Bipole III proceeds is not a matter that is
17 within the jurisdiction of this Board.

18 That decision is made elsewhere. So to
19 that extent, I think the -- the panel issued an order,
20 as Ms. Ramage identified, as Order 20/'14 (sic). And
21 since then, I believe MMF has been responsive and have,
22 for lack of a better word, revised -- I won't say
23 redacted, in the sense that there's any CSI, but they
24 have deleted aspects from their testimony. And that's
25 found as MMF Exhibit 14.

1 The suggestion that the PowerPoint that
2 was circulated impinges on that order, I guess, is a --
3 a matter that Ms. Ramage will have to bring to the
4 attention of the Board and then to hear from counsel
5 for MMF as to whether any of those pages should be
6 deleted or removed.

7 We can proceed on the record, or we can
8 proceed by taking a short recess and seeing if Ms.
9 Ramage and Ms. Saunders and Mr. Marques can -- can
10 review those aspects to come to some understanding.

11 MS. PATTI RAMAGE: And, Mr. Chair, if I
12 could jump in and just apologize to Mr. Peters. I was
13 able to speak to Ms. Saunders, but because we got this
14 late last night, we've been reviewing it upstairs, and
15 I didn't get an opportunity to alert Mr. Peters to
16 that.

17 So I congratulate him on his excellent
18 recollection of the record, except for it was Order
19 22/'14, not 20.

20 THE CHAIRPERSON: My sense, Mr. Peters
21 and Ms. Ramage, probably -- I would prefer if there was
22 an attempt made to see if we can seek common ground
23 before we consider the evidence presented. So I -- I
24 think we should stand down and see if there's some way
25 in which we can arrive at a consensus, how to address

1 the issues that are of -- of concern to Manitoba Hydro.
2 And -- and then we're prepared to come back in. And --
3 and, you know, if -- if we can't arrive at a consensus,
4 we'll make a ruling and proceed from there.

5 MR. BOB PETERS: Thank you. Perhaps
6 I'll meet with Ms. Ramage and counsel in the Board's
7 library and we'll just have quick run through this
8 order and -- or the PowerPoints and see the concerns of
9 Manitoba Hydro and if they can be addressed.

10 THE CHAIRPERSON: Thank you.

11 MR. BOB PETERS: Thank you.

12

13 --- Upon recessing at 9:11 a.m.

14 --- Upon resuming at 10:02 a.m.

15

16 THE CHAIRPERSON: I believe that we're
17 ready to resume the proceedings. Mr. Peters, please.

18 MR. BOB PETERS: Thank you, Mr.
19 Chairman. And thank the panel for the opportunity to
20 caucus with Manitoba Hydro and the MMF parties. And as
21 a result of caucusing, there was discussion in respect
22 of the slide deck that Whitfield Russell Associates
23 wants to present today.

24 And there were ten (10) or twelve (12)
25 slides on which there were concerns that were raised.

1 The concerns were -- were focussed, and I believe the
2 parties will want to bring those to the attention to
3 the Board for a Board ruling on it. And that being the
4 case, I would suggest that Ms. Ramage could come
5 forward with the slides and the portions of the slides
6 that Manitoba Hydro finds in violation of Board Order
7 22/'14 and then allow MMF the opportunity to respond to
8 those concerns.

9 THE CHAIRPERSON: Thank you, Mr.
10 Peters. Ms. Ramage, please.

11

12 SUBMISSIONS BY MS. PATTI RAMAGE:

13 MS. PATTI RAMAGE: Okay. Thank you.
14 And with the Board's indulgence, I may have Ms. Moroz
15 or Mr. Bedford jump in at some points. I am not the
16 transmission legal expert that Ms. Moroz is, nor was I
17 at the CEC hearing for the Bipole III, which Mr.
18 Bedford was. So -- so I will do my best based on my
19 reading of this in the last twelve (12) hours or so.

20 I should probably begin, before walking
21 through, just go back to the -- the two (2) points in
22 Order 22/'14, or two (2) statements in it that I used
23 as my guide when I walked through these. And -- and
24 just to put those on the record, the Board, at page 9
25 of Order 22/'14, said:

1 "The Board is not in a position to
2 reach a determination as to which
3 plan should or should not include
4 Bipole III -- include the Bipole III
5 project without delving into an
6 analysis of the needs for Bipole III
7 on a plan-specific basis."

8 It goes on in that page to say:

9 "The Board accordingly accepts that
10 those portions of the WRA report that
11 deal with the need, alternatives, or
12 delay potential of Bipole III are
13 outside the scope of the NFAT. The
14 Board further accepts that it would
15 be unfair to allow one (1) Intervenor
16 to adduce evidence on such issues
17 without other parties having an
18 opportunity to the same and will
19 order such portions to be struck from
20 the record."

21 And those are the two (2) guiding
22 principles that I went through -- or I -- I used when
23 going through the slide deck. And so if we turn on the
24 slide deck to page 33, and if we look at the last
25 bullet on page 33, we see the bullet that says:

1 "LCA's No New Generation Plan has
2 little or no need for Bipole III,
3 making all sunk costs wasteful."

4 Manitoba Hydro's view is that it is
5 appropriate to talk about sunk costs. It is
6 appropriate to talk about a plan -- any plan assuming
7 Bipole III, because it's a given in all plans. But the
8 need for Bipole III is -- is not before this panel, and
9 evidence to that effect is not appropriate today. So
10 that's page 33.

11 The next is at page 35. And -- and the
12 statement here is -- this discusses, by strengthening
13 interconnections to the US -- United States before
14 building Bipole III, what Manitoba Hydro can do. It
15 goes on to say:

16 "Without distorting the analytical
17 process of the NFAT or taking on the
18 risks and costs associated with
19 building Bipole III."

20 So it's clearly directed at whether
21 Bipole III is in or out, the -- the words 'without
22 distorting'. Anyways, and then later on that it says:

23 "Moreover, by strengthening int --
24 interconnections to the United States
25 before building Bipole III, the PUB

1 would restore logic to the process."

2 And again, the shovel's in the ground
3 for Bipole III. The terms of reference ind -- indicate
4 Bipole III is not part of this proceeding. And this
5 panel has specifically said it's not looking at the
6 delay potential of Bipole III.

7 Page 42. We're looking really at the
8 second bullet. And, for example, in that bullet, the -
9 - the witness says -- it's about the fifth line from
10 the bottom. Just want -- seeing where the sentence
11 begins. But I'll begin by way of a question, whether
12 Bipole III was the most cost-effective way to address
13 the risk. Right there we see that's a -- that's
14 questionable.

15

16 (BRIEF PAUSE)

17

18 MR. ED WOJCZYNSKI: That's 43.

19 MS. PATTI RAMAGE: I'm sorry. I
20 skipped a page, 42 is -- is dealing with -- that
21 overhead is aimed at justifying, or deferring Bipole
22 III. The -- in the first bullet it talks about a
23 proposal, whether it would have enabled Manitoba Hydro
24 to cancel Bipole III. You'll see that is the second-
25 last line in that bullet. And again, the last bullet

1 on that page, for example, says:

2 "This situation raises the question
3 of how many dollars could be saved by
4 deferring or delaying the project."

5 And again, now over to 43, and I just
6 went through that, it -- it has the -- the purpose of
7 it is to question how Bipole III could fulfill its role
8 as backups to Bipole I and II. And I'm trying to go
9 through these fairly quickly.

10 Page 44, the first bullet, and it talks
11 about the additional cost of new generation being more
12 expensive than Bipole III without new generation.

13 Page 45 is -- it's both bullets on page
14 45 again deal with justifying Bipole III and the timing
15 of Bipole III. And just for the Board, it's -- we're
16 now going through 45, 46, 47, and 48.

17

18 (BRIEF PAUSE)

19

20 MS. PATTI RAMAGE: Mr. Wojczynski is
21 reminding me on 46 we could leave the first bullet in.

22 47, the intent appears to be, again, to
23 justify Bipole III:

24 "My calculations indicate with Bipole
25 III, Manitoba Hydro had not arranged

1 for sufficient firm imports to meet
2 the strict standard it set out in the
3 CEC for covering the loss of Bipoles
4 I and II."

5 And these come from the inference that
6 Bipole III is not needed.

7 Page 48, we look at the bottom of that
8 page:

9 "One wonders why it did not build a
10 new lower-cost interconnection to the
11 US in the first place instead of
12 building the more expensive and risky
13 Bipole III."

14 Clearly, the intent of this slide is to
15 question Bipole III.

16 And finally, at page 50, the second
17 bullet. And there we have -- if you look at the last
18 two (2) lines, it -- well:

19 "The amount provided by the 750
20 megawatt 500 kV Manitoba-Minnesota
21 transmission project could have been
22 increased and built to a higher level
23 instead of or prior to the proposed
24 installation of Bipole III."

25 And it's putting into issue the timing

1 and justification of Bipole III, which Manitoba Hydro
2 is of the view is not the purpose of this hearing. And
3 I certainly didn't come prepared with witnesses, or
4 otherwise, to address the timing of Bipole III. And
5 quite frankly, I'm at a bit of a disadvantage other
6 than having My two (2) Friends on either side of me who
7 can tell me what happened at other hearings. But that
8 isn't what our evidence was intended to address.

9 And before turning over the mic to Ms.
10 Saunders to address this, there is the question of our
11 rebuttal evidence. And -- and just in terms of
12 context, that rebuttal evidence was intended to address
13 one (1) point and one (1) point only, and that was an
14 assertion that the reliability standard used by
15 Manitoba Hydro had changed since the Bipole III hearing
16 to this hearing, and that we were using a different
17 reliability criteria than in that previous hearing.

18 And if you look at that rebuttal
19 evidence, that was the intent, what it was intended to
20 address. If that evidence of -- of the MMF stands, we
21 think that's appropriate. If the MMF wishes to
22 withdraw that assertion that reliability criteria has
23 changed, we -- we can resolve this by withdrawing that
24 evidence.

25 But we think that was fair -- we -- we

1 can discuss reliability, and so Manitoba Hydro thought
2 it important to bring to the Board's attention that
3 that criteria has not changed. The MMF will differ on
4 that point. And we can have that debate. But the
5 debate doesn't allow us to extend to then discuss
6 whether Bipole III should or should not be built.

7 So I think maybe Ms. Saunders can now
8 walk through each of those points.

9 THE CHAIRPERSON: Thank you, Ms.
10 Ramage.

11 Mr. Marques, please?

12 MR. TONY MARQUES: Thank you.

13 THE CHAIRPERSON: I'm sorry.

14

15 SUBMISSIONS BY MR. TONY MARQUES:

16 MR. TONY MARQUES: Thank you, Mr.

17 Chairman. Like Ms. Ramage, I'm at a bit of a
18 disadvantage. And the Board would know this. I have
19 not been here prior to yesterday, so I don't have some
20 of the background. With your indulgence, Ms. Saunders
21 will step in. And perhaps -- usually it's the other
22 complaint -- and perhaps if the Board feels necessary,
23 any subjects from Mr. Russell or Ms. Looker.

24 But I -- I just wanted to put the whole
25 thing into context first. What -- what Manitoba Hydro

1 is now asking you to do is to go through the PowerPoint
2 presentation without hearing any context and, on a
3 piecemeal basis, to take out certain portions of it.

4 And their justification for doing that is they say that
5 it's beyond the jurisdiction of this -- of this Board
6 to make a determination as to the need for Bipole III.

7 We agree with that. You don't have the
8 jurisdiction to come out with a finding that Bipole III
9 is not needed. And we will not be arguing that at the
10 end of the day. However, in the presentation and this
11 part of the narrative that Mr. Russell hopefully will
12 be able to -- to present, it's very difficult to
13 separate individual items from the big picture.

14 And sometimes it is of assistance to
15 imagine a scenario, or even a hypothetical scenario,
16 that this does or does include Bipole III. That's for
17 the purposes of analysis, because the -- at the -- at
18 the end of the day, the Board's going to have to
19 compare a number of different scenarios. And -- and
20 what role Bipole III plays in them, I guess, will be
21 for the Board to determine, whether it's a reliability
22 role or whether it's a role of actually delivering
23 power that doesn't really deal with the reliability
24 issue.

25 All that aside, it's -- it's

1 acknowledged that Bipole III, and in terms of the need
2 for Bipole III, that issue's been determined. We're
3 not to look at it. There is a distinction, in -- in
4 our submission, between us asking the Board to make an
5 order that it can't make and talking about something to
6 put it into proper context. And I think what Hydro's
7 suggesting, in my submission, is that we can't even
8 talk about it.

9 And in my submission, we should be able
10 to talk about it to the extent that it's relevant to
11 put everything into context. There's not a great harm
12 at this point. The -- the slides have already been
13 produced and -- and photocopied. There's not a great
14 harm at this point in allowing Mr. Russell to go
15 through his presentation and allowing Hydro to cross-
16 examine on that presentation as much as it wishes and
17 we have time for, in terms of any errors that -- that
18 are contained in that presentation, and -- and allowing
19 Hydro at the end of the day to say, The Board should
20 disregard slides 33 and the second line in 44 and 45
21 and all of those other things because they're not
22 relevant.

23 But to ask you to predetermine that now
24 without the context of his testimony, I would submit,
25 is probably not the best course to pursue because you

1 may find that, in fact, it is necessary to explain the
2 narrative. And you may find that having him spend a
3 few extra moments at this stage of the proceedings is
4 really not that injurious to the role that you have to
5 fulfill, which is to consider all of the facts.

6 That's my general submission. Ms.
7 Saunders, I think, has some specific comments to make,
8 as well. But my general submission is that we have to
9 keep the big picture in mind.

10

11 SUBMISSIONS BY MS. JESSICA SAUNDERS:

12 MS. JESSICA SAUNDERS: I would thank
13 you for hearing our comments at this late hour. And I
14 know it -- it perhaps wasn't ideal. I think that my
15 preference would have been to have received rebuttal
16 evidence, because most of our substantive arguments in
17 our report were available very soon after Order 22 and
18 a Schedule A attached to that order that the Board did
19 fill out.

20 And the subject of our further
21 application to review and vary on Order 35 dealt with
22 removing offending portions at that time such that the
23 substantive arguments were available to Manitoba Hydro
24 to make submissions on any point after Order 22.

25 So I think what we -- what we would have

1 done -- and I think I've enjoyed the PUB's process of
2 allowing us to consider the points, the terms of
3 reference, what we're hearing, what we discuss in these
4 hearings to consider them thoughtfully and come back
5 with a submission. I've utilized your rules, your
6 applications to review and vary to do that

7 And my preference would have been, of
8 course, to have received the rebuttal evidence and
9 consider it and come back with a submission that
10 perhaps would have thought more about those aspects of
11 the report that we would have suggest be returned back
12 to the -- to the record based on the rebuttal evidence.

13 We're faced with having the rebuttal
14 evidence as of Thursday, and -- and for circumstances I
15 explained in -- in an email to counsel for the PUB, I
16 didn't get it until Friday. We were advised that
17 appropriate protocol would be to address the new
18 matters brought up in rebuttal evidence in slides in
19 our presentation.

20 And so today we have some of those. And
21 I can only, as you went through those slides, add to
22 Mr. Marques's comments that what we did do is consider
23 those matters that I did point out in the submission to
24 review and vary Order 22. That would be Order 35, the
25 submission that resulted in Order 35. We highlighted

1 that from Order 22 the general risk of reliance on the
2 HVDC corridor, the sunk cost issues as Manitoba Hydro
3 has recognized, as well as general issues of
4 reliability were within scope.

5 And so what we did do was we received
6 the rebuttal. We considered it in the time that we
7 had, and we considered the fact that we were able to
8 speak to those matters in our PowerPoint presentation.
9 And we've done so on the understanding that in
10 considering the reliability standards and -- and the --
11 the various other in scope matters some context would
12 be required.

13 And now I do know that we go an added
14 step of providing some conclusions on those contexts,
15 but I leave that to your consideration in light of what
16 Mr. Marques has said today here. And I thank you for
17 considering this at this late hour, and I do believe
18 that it's just a matter of process.

19 I would have liked to have dealt with
20 it, I think, much earlier than -- than this morning.
21 But unfortunately, having received it on the -- the 9th
22 of May, this was the position that I think we were put
23 in. So my apologies that this has happened, but I
24 thank you for allowing us to deliberate this morning.

25 THE CHAIRPERSON: Thank you for that.

1 And now, Ms. Ramage, please.

2

3 REPLY BY MS. PATTI RAMAGE:

4 MS. PATTI RAMAGE: Yes, if I could
5 comment on a -- a few of the comments being made by the
6 MMF. I think we have agreement with everyone in the
7 room that the Board was not given jurisdiction over
8 this matter. And when a panel is not given
9 jurisdiction, it doesn't hear evidence on the matter.
10 It -- it's not a question of we get -- we listen to
11 evidence and you can come to this panel and talk about
12 whatever you like, be it Maniit -- Bipole III, be it MPI
13 rates.

14 Because the Board has a general topic,
15 rates, we don't get to come to hearings and just talk
16 about to the Board what we'd like to. We have a -- a
17 scoping document, and we comply with the scoping
18 document. I don't accept, quite frankly, that it's
19 difficult to accept -- to separate individual items.
20 This is the only -- only Intervenor who has raised
21 Bipole III issues in this hearing.

22 All Intervenors were able to accept it,
23 and it was quite easy to accept because Bipole III is
24 consistently dealt with across every single plan.
25 There is no need to take it out of any plan because it

1 -- it's been treated the same. It's a given. The
2 shovels are in the ground. We're not talking about
3 what happens when -- if it was delayed, deferred, it
4 didn't occur, it was done differently. That was dealt
5 with in a different process, and the MMF participated
6 in that process.

7 I'm advised by Mr. Bedford in that
8 process, they considered different alternatives.
9 That's not something I can speak to and it's not
10 something Manitoba Hydro has the appropriate people
11 here to speak to, nor should they. It's not something
12 that the Board has been prepared for in this hearing.
13 It's not something we've been dealing with up till now.
14 It's not something the other Intervenors have been
15 dealing with up till now.

16 And to, on the very last day of this
17 hearing, to come up with this type of evidence after
18 the Board has already issued an order on this topic, --
19 and the Board was very clear in its order. And it
20 asked that -- it -- it directed that this evidence be
21 struck. And as I said earlier, it -- it's -- the
22 evidence that was struck was those that -- which deals
23 with the need, alternatives, or delay potential of
24 Bipole III, the Board couldn't have been clearer.

25 And to suggest now that it's -- it's

1 difficult to -- to deal with this without Bipole III
2 is, quite frankly, preposterous. You -- it's what
3 we've been dealing with for the last how many ever
4 months. No one has raised this until the last day of
5 this hearing. To suggest that the Board needs to
6 understand what role Bipole III plays, it's -- it plays
7 the same role in every single plan. And -- and that's
8 what the terms of reference have directed us to do, and
9 -- and that's what we have done up till this date.

10 Mr. Marques talked about cross-
11 examining. I can tell you, I can't cross-examine on
12 Bipole III. It's not something I can -- came prepared
13 to do. It's -- it's -- we didn't prepare for this
14 issue. And we certainly didn't prepare after the
15 Board's order directing that it would not be part of
16 this hearing.

17 In terms of comments regarding the late
18 date of the rebuttal, I would simply remind parties in
19 the room of the timing of this. The WRA evidence, I
20 believe, was filed originally February 18th -- no,
21 February 12th. Manitoba Hydro responded with a motion
22 on February 18th. The Board issued its order on March
23 4th.

24 In the Board's order, the Board invited
25 MMF to refile its evidence. MMF filed that -- refiled

1 that evidence on April 29th. Manitoba Hydro did not
2 know what was coming back, so Manitoba Hydro was not
3 going to file rebuttal evidence on materials that it
4 did not know what was going to be in them.

5 We've had plenty of different evidence
6 introduced throughout this process, and the Board has
7 generously advised parties that they can -- they --
8 they were invited to refile on that evidence. So
9 certainly, Manitoba Hydro wasn't going to file rebuttal
10 to something that hadn't been filed yet.

11 So I'd ask the Board to remember that
12 that came in on April 29th. It's not new. It was
13 raised in -- in the panels -- or it was -- it -- it was
14 their evidence that we're dealing with now. They were
15 -- it was struck. And now, in the materials we've put
16 -- seen put back in what was taken out -- out of that
17 struck evidence.

18 And I think it -- it's imperative that
19 the Board deal with that right away, because if parties
20 are allowed to come to hearings and ignore Board orders
21 as to what's in scope and suggest that they can talk
22 about whatever they like when they're here, regardless
23 of a scoping order and regardless of the terms of
24 reference, I think our processes will fall apart
25 completely.

1 THE CHAIRPERSON: Thank you, Ms.
2 Ramage.

3 MR. TONY MARQUES: Mr. Chair, I'm
4 sorry, just one (1) --

5 THE CHAIRPERSON: Mr. Marques...?

6 MR. TONY MARQUES: -- minor issue that
7 I think needs clarification. At the beginning, Ms.
8 Ramage stated that the rebuttal was directly solely at
9 the IR, an issue which was actually completed and --
10 and filed on the 28th of February. So I don't see how
11 the redaction in the report or any other of those
12 issues have anything to do with the late hour of
13 Manitoba Hydro's rebuttal.

14 It was strictly based on a report of
15 February -- or an IR of February 28th.

16 MS. PATTI RAMAGE: And if we want to
17 talk about the rebuttal, the rebuttal only addresses
18 the issue of criteria. It doesn't address the addit --
19 the issue of Bipole III. I -- I can advise the Board,
20 we were very careful and it was the question I asked as
21 it was being produced. We do not want to invite Bipole
22 III into this, and we were very careful to word that
23 rebuttal so it addresses the criteria and that there
24 had been no change in the criteria. We did not address
25 Bipole III in the criteria. We didn't invite this to

1 come back in.

2 Having said that, as we have suggested
3 as a resolution, if these matters are withdrawn and
4 that IR that has been allowed -- that is remaining is
5 withdrawn, we have no issue with withdrawing the
6 rebuttal also.

7 THE CHAIRPERSON: Mr. Marques, anything
8 else?

9 MR. TONY MARQUES: I'm not sure what
10 else to say. I think that even the rebuttal itself --
11 and I'm not certain to what extent the Board has had an
12 opportunity to review it. I can tell you that the MMF
13 does not agree with Ms. Ramage's statement that it's
14 addressed to -- or confined to the issue of
15 reliability.

16 Our position is that it's -- that --
17 that it's a bigger issue than that that's raised in the
18 rebuttal. We'd like Mr. Russell to be able to explain
19 that further. And as I say, at the end of the day, I
20 think we're spending more time talking about it than
21 just hearing it and excluding whatever's not relevant.
22 But we don't accept that we can't -- that we can
23 somehow artificially create a barrier where as soon at
24 the words 'Bipole III' come up we can't talk about it.

25 THE CHAIRPERSON: Thank you. With that

1 we'll step down. We are going to caucus and be back as
2 soon as we have a decision, which we will render to the
3 parties as quickly as possible. Thank you.

4

5 --- Upon recessing at 10:28 a.m.

6 --- Upon resuming at 11:27 a.m.

7

8 THE CHAIRPERSON: I believe that we're
9 ready to resume the proceedings. So, Mr. Peters,
10 please.

11 MR. BOB PETERS: Yes, thank you, Mr.
12 Chairman. In terms of proceeding at this time, I know
13 we've perhaps taken time that we thought we might be in
14 other evidence. But if the panel has finished their
15 deliberations, perhaps the panel could indicate how it
16 wants Whitfield Russell to proceed at this point, in
17 terms of the slide deck.

18

19 BOARD RULING:

20 THE CHAIRPERSON: Now, the panel has --
21 has met to consider the motion made by Manitoba Hydro
22 to delete certain portions of the slide deck prepared
23 by Whitfield Russell and Associates. Dr. Grant recused
24 himself from the deliberations on this matter.

25 In addressing this matter, the Board

1 relied on its decision set out in Orders 22/'14 and
2 Orders 35/'14. I want to -- I want to read certain
3 portions of those orders into the record.

4

5 (BRIEF PAUSE)

6

7 THE CHAIRPERSON: In respect of Order
8 22/'14, on page 8 of that order, the following
9 paragraph is set out:

10 "The extended scope of the Board's
11 inquiry into the Preferred
12 Development Plan is therefore set out
13 and constrained by the NFAT terms of
14 reference, which state that the
15 Bipole III transmission line and
16 converter station project are not in
17 the scope of the NFAT. The Board
18 interprets this carve out to mean
19 that it is not the Board's mandate to
20 inquire into the need for the Bipole
21 III project, nor into the
22 alternatives to the Bipole III
23 project."

24 Now, from page 9, the following
25 paragraph is set out:

1 "The Board accordingly accepts that
2 those portions of the Whitfield
3 Russell and Associates report that
4 deal with the need, alternatives, or
5 delay potential of Bipole III outside
6 the scope of the NFAT. The Board
7 further accepts that it would be
8 unfair to allow one (1) Intervenor to
9 adduce evidence on such issues
10 without other parties having an
11 opportunity to do the same."

12 Now, having considered those -- those
13 orders, the Board has made the following
14 determinations. And what we have done is we have
15 edited the slide deck that was submitted by Whitfield
16 Russell -- Whitfield Russell and Associates.

17 So starting on page 33, the Board has
18 decided that the last bullet of that slide should be
19 deleted.

20 Now turning to slide 35, the Board has
21 determined that all the text on that slide should be
22 removed with the exception of the title.

23 Moving to slide 42. The Board has
24 determined that the first and third bullet of that
25 slide should be removed.

1 Moving to slide 43. Starting with the
2 second sentence of the second bullet, the sentence
3 starts:

4 "We accepted the proposition that the
5 spare transmission capacity created
6 by Bipole III without Keeyask and
7 Conawapa would lessen risks and cost
8 associated with loss of both Bipoles
9 I and II."

10 The balance of that sentence is deleted.

11 Moving to slide 44. All of the text
12 from that slide will remain in the record.

13 Moving now to slide 45. All of that
14 text should remain on the record.

15 Slide 46. All of the slide should
16 remain on the record.

17 47. All of the text should remain on
18 the record.

19 Slide 48. In that case, the words at
20 the end of the sentence, the last sentence of that
21 slide:

22 "One wonders why it did not build a
23 new lower-cost interconnection to US
24 in the first place."

25 So the rest of that is deleted.

1 And finally, turning to page -- to slide
2 50, rather. The -- turning now to the second bullet,
3 the text should read as follows:

4 "The amount provided by the 750
5 megawatt/500 kV MMTP could have been
6 increased and built to a higher
7 level."

8 The rest of that sentence is deleted.

9 With that, I think that is the --
10 completes my portion, Mr. Peters.

11 MR. BOB PETERS: Thank you. We might
12 want to give MMF just a few minutes to wrap their head
13 around all of that. And I believe they now have black
14 and white paper copies.

15 I should suggest, Mr. Chairman, that in
16 light of the ruling of the Board, that MMF -- what had
17 been marked as Exhibit 31 would now be removed and we
18 would provide a new exhibit number for the -- the new
19 slide deck that the Board has -- has approved.

20 And I'll leave it to Mr. Secretary to
21 provide us with the appropriate exhibit number.

22 MR. KURT SIMONSEN: We could call it 31
23 revised or give it a whole new number.

24 MR. BOB PETERS: I'd be okay with 35
25 revi -- 31 revised, unless there's any comments from --

1 MR. KURT SIMONSEN: Ms. Saunders, are
2 you okay, 31 revised? Thank you.

3

4 --- EXHIBIT NO. MMF-31: Revised PowerPoint
5 presentation

6

7 MR. BOB PETERS: And my last point, Mr.
8 Chairman, is that the electronic version of this is
9 available to Mr. Russell and Ms. Looker. I believe
10 it's available so that when they go through their
11 presentation, they can control the screen, although I'm
12 -- I'm not sure if -- if they presently have the
13 electronic version of it at this point in time.

14 MR. KURT SIMONSEN: I don't believe
15 they have it yet. If we're going to have the
16 presentation, we'd probably have to operate the system,
17 if that's acceptable. You'll just have to indicate the
18 next slide, please. Thank you.

19 THE CHAIRPERSON: So -- thank you, Mr.
20 Peters.

21 So with that, Mr. Marques, please.

22 MR. TONY MARQUES: Thank you. In view
23 of the fact that a number of the changes made are later
24 on in the presentation, I propose that we commence.
25 Certainly we have some work to do before we get into

1 the actual material. And I'm ready to go in the best
2 interests of time if -- if you are, Mr. Chairman.
3 Thank you. Perhaps we should have Mr. Russell sworn.
4 We've already taken care of the exhibits.

5

6 MMF PANEL 2 - ECONOMICS:

7 WHITFIELD RUSSELL, Sworn (Qual.)

8

9 QUALIFICATION OF WITNESS:

10 MR. TONY MARQUES: Mr. Russell, you
11 have been called as an expert witness on behalf of the
12 Manitoba Metis Federation?

13 MR. WHITFIELD RUSSELL: Yes.

14 MR. TONY MARQUES: And you had produced
15 a report which is filed with this Board as Exhibit 14?

16 MR. WHITFIELD RUSSELL: Yes.

17 MR. TONY MARQUES: And is that your
18 report?

19 MR. WHITFIELD RUSSELL: It is.

20 MR. TONY MARQUES: You had received
21 certain IRs and answered certain IRs and submitted
22 certain IRs?

23 MR. WHITFIELD RUSSELL: I did.

24 MR. TONY MARQUES: And were those
25 prepared for -- or prepared by you or at your

1 direction?

2 MR. WHITFIELD RUSSELL: Yes.

3 MR. TONY MARQUES: All right. And all
4 of the -- and you have prepared a PowerPoint, what's
5 left of the PowerPoint this morning.

6 Was that prepared mostly at your
7 direction?

8 MR. WHITFIELD RUSSELL: Yes.

9 MR. TONY MARQUES: Yes. And all of the
10 material that I have referred to, did you have anyone
11 assisting you in the preparation of that?

12 MR. WHITFIELD RUSSELL: I did. I had
13 Mrs. Looker, who is to my right. And then we had two
14 (2) subcontractors, Mr. Thomas Besich and Mr. Harrison
15 Clark.

16 MR. TONY MARQUES: All right. And I
17 understand that Mr. Besich's CV is filed as Exhibit 16
18 before the Board, and that Mr. Clark's CV is filed as
19 Exhibit 17. And Ms. Looker's CV, which we'll get to in
20 a minute, is filed as Exhibit 18.

21 In the preparation of the material that
22 you -- that we have referred to, first of all, with
23 respect to your involvement, were you using your best
24 professional experience and expertise?

25 MR. WHITFIELD RUSSELL: Yes.

1 MR. TONY MARQUES: And can you just
2 briefly tell the Board what the involvement of the
3 others was, in terms of the final product?

4 MR. WHITFIELD RUSSELL: Well, I and
5 others, mostly Mrs. Looker, we drafted sections of the
6 report. Then I would rewrite and react to comments on
7 the drafts. I would initially draft parts myself. As
8 comments came in, I took some and I rejected some, and
9 that was the final report.

10 MR. TONY MARQUES: All right. And
11 specifically referring now to Ms. Looker, she is seated
12 beside you.

13 And I understand that you would like her
14 to be able to assist you in your testimony?

15 MR. WHITFIELD RUSSELL: Yes.

16 MR. TONY MARQUES: And I understand
17 that the assistance would be in the nature of
18 clarification and finding material for you, and perhaps
19 enhancing your evidence in some cases, depending on the
20 circumstances?

21 MR. WHITFIELD RUSSELL: Indeed, yes.

22 MR. TONY MARQUES: And we will talk to
23 her in a minute, but from your knowledge, what are her
24 professional qualifications?

25 MR. WHITFIELD RUSSELL: She has a -- an

1 undergraduate degree from Hope College. She has a
2 graduate degree in business administration from George
3 Washington University. She became known to us when she
4 worked for the American Public Power Association in
5 Washington, DC, and began working with us, I think, in
6 the late 1980s or early 1990 -- late 1980s. There was
7 one (1) sabbatical for children and -- and other
8 reasons, and she has returned and worked with us for
9 many years.

10 MR. TONY MARQUES: And in a general
11 way, can you tell the Board what her contribution to
12 the report would have been?

13 MR. WHITFIELD RUSSELL: Well, she knows
14 a great deal about our business. And so she
15 administers -- when I have multiple cases going on, she
16 -- she moves along the cases for me, does much of the
17 substantive work, and kind of cracks the whip on me.

18 MR. TONY MARQUES: All right. Very
19 well. And I'd like to talk about your qualifications
20 for a moment. As I said, we have Exhibit 15 filed,
21 which is your CV. And I don't propose to go through it
22 in any great detail, but I did want to highlight some -
23 - some points.

24 And I understand that you're an
25 electrical engineer?

1 MR. WHITFIELD RUSSELL: I am.

2 MR. TONY MARQUES: Just tell us where
3 you obtained your credentials.

4 MR. WHITFIELD RUSSELL: The University
5 of Maine as a bachelor degree, and then a master's in
6 electrical engineering from the University of Maryland.

7 MR. TONY MARQUES: What year did you
8 obtain your master's?

9 MR. WHITFIELD RUSSELL: 1971.

10 MR. TONY MARQUES: Now, I don't quite
11 understand why, but you also decided that you wanted to
12 be a lawyer.

13 MR. WHITFIELD RUSSELL: Yes.

14 MR. TONY MARQUES: And you have a juris
15 doctor?

16 MR. WHITFIELD RUSSELL: Yes.

17 MR. TONY MARQUES: Just tell us what
18 the background is.

19 MR. WHITFIELD RUSSELL: Well, I went to
20 night school at the Georgetown University Law Centre
21 and graduated with that degree in 1976. And I was
22 admitted to the bar in the District of Columbia and
23 Virginia.

24 MR. TONY MARQUES: And I understand
25 from our personal discussions that you don't actually

1 practice law except by giving free advice to your
2 friends.

3 MR. WHITFIELD RUSSELL: That's right.

4 MR. TONY MARQUES: All right.

5 MR. WHITFIELD RUSSELL: Yes.

6 MR. TONY MARQUES: Just in terms of
7 your professional involvement, I understand that
8 sometime in 1969 you started as an associate engineer
9 with the System Planning Division of the Potomac
10 Electric Power Company?

11 MR. WHITFIELD RUSSELL: Yes. That's
12 the utility for Washington, DC, and Maryland suburbs.

13 MR. TONY MARQUES: And just briefly
14 explain what -- what your involvement was.

15 MR. WHITFIELD RUSSELL: It was
16 transmission planning, generation planning. A good
17 deal of our work was as part of the then-called PGM
18 interconnection, which is a power pool of, I think,
19 thirteen (13) companies organized into six (6) holding
20 companies. And it is really the classic beginning of
21 what is now the PJM ISO, which spreads as far west as
22 Chicago and incorporates parts of Virginia and -- and
23 other states.

24 MR. TONY MARQUES: Okay. And for
25 people who don't -- like me who don't know what the PJM

1 --

2 MR. WHITFIELD RUSSELL: 'PJM' stands
3 for Pennsylvania-New Jersey-Maryland. And the -- those
4 classic PJM companies were -- resided there --

5 MR. TONY MARQUES: All right.

6 MR. WHITFIELD RUSSELL: -- served.

7 MR. TONY MARQUES: And from -- for a
8 couple of years, you were with -- you were with the
9 Federal Power Commission?

10 MR. WHITFIELD RUSSELL: Yes.

11 MR. TONY MARQUES: And then you moved
12 on to chief engineer for Securities and Exchange,
13 administering the Public Utility Holding Company Act?

14 MR. WHITFIELD RUSSELL: Yes. The --
15 the SEC has jurisdiction over about 20 percent -- at
16 that time, about 20 percent of the electric industry.
17 And that was with respect to mergers, acquisitions, and
18 other matters under the 1935 Act, the Public Utility
19 Holding Company Act.

20 MR. TONY MARQUES: All right. And I
21 understand that you started your company, Whitfield and
22 Associates, in 1976?

23 MR. WHITFIELD RUSSELL: Yes.

24 MR. TONY MARQUES: So about thirty-
25 eight (38) years ago.

1 MR. WHITFIELD RUSSELL: Yes.

2 MR. TONY MARQUES: And what have you
3 been doing for the last thirty-eight (38) years?

4 MR. WHITFIELD RUSSELL: Mostly our
5 client base initially was public power companies and
6 their dealings with investor-owned utilities. In 1978,
7 the Public Utility Regulatory Policies Act was passed,
8 and co-generation became a matter of great concern.
9 And I worked for a number of large co-generators and
10 small entities as well with -- who obtained rights
11 under that statute.

12 And over the years, I've worked both
13 against and for investor-owned utilities, publicly
14 owned utilities, First Nations in -- in about forty
15 (40) states in -- with respect to rate cases, contract
16 disputes, arbitrations, and so forth.

17 MR. TONY MARQUES: Have you ever
18 testified in proceedings similar to this?

19 MR. WHITFIELD RUSSELL: Yes.

20 MR. TONY MARQUES: And can you tell us
21 generally approximately how many times you have?

22 MR. WHITFIELD RUSSELL: I've been
23 accepted as witness somewhere between a hundred and
24 fifty (150) and two hundred (200) times, an expert
25 witness on these matters.

1 MR. TONY MARQUES: Expert in what?

2 MR. WHITFIELD RUSSELL: Bulk power
3 planning, bulk power supply contracts, transmission
4 access, and so forth.

5 MR. TONY MARQUES: In your CV, you
6 indicate that you're -- that you have experience in
7 electric utility system planning, transmission and
8 generation, rate making, and bulk power contracts.

9 MR. WHITFIELD RUSSELL: I do, yes.

10 MR. TONY MARQUES: And is that a fair -
11 - well, you prepared it, but is -- is that a fair
12 summary of your area of expertise?

13 MR. WHITFIELD RUSSELL: It is.

14 MR. TONY MARQUES: Now, you said that
15 you've been qualified as an expert witness in
16 approximately twenty-seven (27) states?

17 MR. WHITFIELD RUSSELL: Yes.

18 MR. TONY MARQUES: And I understand
19 that you've also been qualified as an expert witness in
20 Canada in some provinces?

21 MR. WHITFIELD RUSSELL: Yes.

22 MR. TONY MARQUES: I'm not going to --
23 I -- I see that in your CV there are a hundred and
24 eighty-two (182) entries for matters in which you have
25 testified or provided evidence. And I'd just like --

1 I'm not going to go through it any great detail, but
2 just highlight a couple of the more notable ones.

3 I guess I should start with your
4 involvement in Manitoba in 1990. Can you --

5 MR. WHITFIELD RUSSELL: Yes. That was
6 the --

7 MR. TONY MARQUES: -- outline that for
8 the Board, please?

9 MR. WHITFIELD RUSSELL: Yes. That
10 involved the proposed sale of the output of Conawapa to
11 the Ontario Hydro at the time. And I was retained by
12 the Board to offer my comments on that and related
13 matters.

14 MR. TONY MARQUES: Okay. I see that
15 you have provided evidence in Alberta?

16 MR. WHITFIELD RUSSELL: Yes.

17 MR. TONY MARQUES: And what was the
18 nature of that?

19 MR. WHITFIELD RUSSELL: I think the dis
20 -- the -- the matter was the definition and pricing of
21 ancillary services under their recently restructured
22 market.

23 MR. TONY MARQUES: And you provided
24 evidence in Ontario?

25 MR. WHITFIELD RUSSELL: Yes.

1 MR. TONY MARQUES: And what was the
2 nature of that?

3 MR. WHITFIELD RUSSELL: That related to
4 the Sagkeeng Ojibwe First Nations. And a large 500 kV
5 line was being planned to pass through their lands and
6 -- for purposes of -- of transmitting the output of
7 large additions of wind generation and the Bruce
8 Nuclear Plant.

9 MR. TONY MARQUES: All right. And in
10 the cases that I've just asked you about, were you
11 giving the type of testimony that you have described
12 that's within your area of expertise?

13 MR. WHITFIELD RUSSELL: I was.

14 MR. TONY MARQUES: I see that, from
15 looking at your CV, that you have substantial
16 involvement with the Wisconsin utility companies?

17 MR. WHITFIELD RUSSELL: Yes.

18 MR. TONY MARQUES: Just, again, very
19 generally, can you tell us what that is?

20 MR. WHITFIELD RUSSELL: Yes, for a
21 number of years I worked for the Wisconsin Public Power
22 Inc., which is WPPI. It's a consortium of about thirty
23 (30) publicly owned, municipally owned systems and in
24 their dealings with investor-owned utilities, such as
25 Wisconsin Public Service and Wisconsin Electric Power

1 Company, and so forth. And on other occasions -- this
2 was with regard to rate dispute, transmission access,
3 and so forth.

4 In other occasions they were a part of a
5 coalition to promote and develop transmission lines,
6 such as the Arrowhead Line, which terminates near where
7 the Great Northern Minnesota line will -- will
8 terminate, near Blackberry.

9 MR. TONY MARQUES: All right. And
10 would you lastly describe for the Board what you
11 consider to be your level of expertise or knowledge
12 with respect to NERC, FERC, and MISO, in terms of their
13 --

14 MR. WHITFIELD RUSSELL: That has
15 frequently -- the reliability standards applicable to
16 transmission and generation have frequently been a
17 subject of my testimony over the years. And I should
18 say that Mr. Harrison Clark was one (1) of the original
19 -- after the 1965 blackouts in New York, when NERC was
20 formed, he was -- had a very early role in helping
21 draft the initial reliability standards of NERC.

22 MR. TONY MARQUES: And Mr. Clark being
23 one (1) of your co-workers?

24 MR. WHITFIELD RUSSELL: One (1) of our
25 sub -- subcontractors, yes.

1 MR. TONY MARQUES: Mr. Chairman, I'm
2 going to be asking that Mr. Russell be accepted as an
3 expert in electric utility system planning, both
4 transmission and generation, rate making, and bulk
5 power contracts, recognizing that that is a pretty
6 substantial area. But -- and I don't know if any of
7 the other parties have any questions for him, but
8 that's what we're looking for.

9 And then I propose after we deal with
10 Mr. Russell to then briefly ask Ms. Looker a few
11 questions, just so that we can put her in context, in
12 terms of anything she might contribute.

13 THE CHAIRPERSON: Mr. Marques, I've got
14 electricity, utility planning and generation,
15 transmission, rate making. And what was the other one?

16 MR. TONY MARQUES: Oh, and bulk power
17 contracts.

18 THE CHAIRPERSON: Bulk power contracts.
19 Okay.

20 MR. TONY MARQUES: Okay.

21

22 (BRIEF PAUSE)

23

24 THE CHAIRPERSON: I'll call on Ms.
25 Menzies, please.

1 MS. MEGHAN MENZIES: Thank you, and
2 good morning. CAC (Manitoba) has no objections to
3 these qualifications as set out.

4 THE CHAIRPERSON: Thank you. Mr.
5 Gange, please?

6 MR. WILLIAM GANGE: GAC is prepared to
7 accept the witness as well.

8 THE CHAIRPERSON: Thank you, Mr. Gange.
9 Me. Monnin, s'il vous plait.

10 MR. CHRISTIAN MONNIN: Merci, M.
11 President. The IECs have no objections.

12 THE CHAIRPERSON: Merci, Me. Monnin.
13 Ms. Ramage...?

14 MS. PATTI RAMAGE: Manitoba Hydro has
15 no questions.

16 THE CHAIRPERSON: Thank you for that,
17 Ms. Ramage.

18 Mr. Peters...?

19 MR. BOB PETERS: No questions. Thank
20 you.

21 THE CHAIRPERSON: Thank you. I -- I --
22 looking at the clock. I think what we're -- what I
23 propose to do is that we -- we work for about a half an
24 hour and then break a half hour for lunch and then
25 resume the proceedings. Because of the delays we've --

1 we've encountered today, I'd like to proceed as quickly
2 as possible, because we are time constrained at the
3 panel level beyond six o'clock, I believe. So I really
4 would like to get it done today if possible.
5 Otherwise, we -- we'll have to look at alternatives.

6 MR. TONY MARQUES: Very well. And
7 perhaps I -- I can save some time by saying that I've
8 already indicated what our intentions are with respect
9 to Ms. Looker's involvement. I will ask Mr. Russell if
10 Ms. Looker contributes any information that is not in
11 accordance with your expertise, will you undertake to
12 advise the panel?

13 MR. WHITFIELD RUSSELL: I will, yes.

14 MR. TONY MARQUES: And perhaps we can
15 do it that way. Her CV speaks for itself, and we'll
16 get moving right along. Very well.

17 MR. KURT SIMONSEN: Mr. Marques, is Ms.
18 Looker to be sworn in?

19 MR. TONY MARQUES: Yes, I think that
20 would be a good idea. Thank you.

21

22 GENEVA LOOKER, Sworn

23

24 THE CHAIRPERSON: Now, I want to make
25 sure that we understand. Ms. Looker, you're going to

1 be serving as a fact witness in this case, right, and -
2 - but the expert is Mr. Russell?

3 MR. TONY MARQUES: Yes. There are
4 obviously certain business aspects to the presentation
5 which I think will be quite clear. But clearly what
6 we're here for is the technical aspect of the
7 presentation, and the expert is Mr. Russell.

8 THE CHAIRPERSON: Okay. I just want to
9 make sure that the Intervenor and Manitoba Hydro is
10 prepared to accept what's being proposed here.

11 MS. PATTI RAMAGE: No, Manitoba Hydro
12 has no objection.

13 THE CHAIRPERSON: No concerns from the
14 Intervenor? Looking around the room, there doesn't
15 appear to be any concern. So what I neglected to say
16 is the panel's prepared to accept Mr. Russell as an
17 expert witness for the areas outlined by Mr. Marques.
18 And we're also prepared to accept Ms. Looker as a fact
19 witness in support of Mr. Rusfield -- Mr. Russell's
20 testimony. Okay, with that?

21 MR. TONY MARQUES: Thank you very much,
22 Mr. Chairman.

23 THE CHAIRPERSON: Thank you.

24 MR. TONY MARQUES: And with your
25 permission, we will get right into the presentation.

1 EXAMINATION-IN-CHIEF BY MR. TONY MARQUES:

2 MR. TONY MARQUES: So, Mr. Russell, I
3 ask you to start your presentation based on the revised
4 PowerPoint that was prepared.

5 MR. WHITFIELD RUSSELL: Thank you. May
6 we go to slide 2, please. We're going to focus on a
7 quick summary here of what my presentation focusses on,
8 is the lack of transparent data available to us,
9 largely because we were unable to see CSI materials.

10 The study period underlying the NFAT is
11 too long; seventy-eight (78) years. The export revenue
12 forecasts have been unavailable, and the -- the detail
13 underlying the NFAT. But we resorted to second-best
14 information and did the best we could to put together a
15 substantive presentation for your -- for your use.

16 Export revenue forecasts are
17 unavailable, and they indicate a lot of risk. Exports
18 will not recover the full costs of Keewa -- Keeyask and
19 Conawapa. Hydro's analysis and conduct indicates a
20 very strong predisposition to develop hydro. That --
21 I'm going to discuss Bipole III's 3 billion -- \$3.3
22 billion cost, which is deemed sunk and is ignored,
23 frankly, as a neutral factor in the economic
24 comparisons analysis. Other sunk costs with respect to
25 Keeyask and Conawapa are similarly omitted and

1 prejudice the analysis. And the seventy-eight (78)
2 year study favours hydro.

3 Next to the last is reliability analysis
4 that Hydro relied on to expand the HVD sys -- HVDC
5 system. I'm going to contrast that with what has
6 changed since then.

7 And finally, an additional transmission
8 line to the US, I believe along the lines outlined by
9 La Capra, will lower costs and risks and improve
10 reliability for Manitoba.

11 Slide 3, please. Much of the data that
12 we tried to obtain and would rely on in the absence of
13 our CSI barrier was on financial and economic risks of
14 the PDP, but it's been restricted. And many questions
15 that were asked by the IECs were of interest to us --
16 the responses, that is -- and similar to those that we
17 would have asked. And many of the answers came back as
18 follows, quote:

19 "This Information Request has been
20 withdrawn by the IEC as no longer
21 required, having been satisfied
22 through discussion with Manitoba
23 Hydro."

24 Close quote. That left us in a
25 situation where we had to rely upon the findings and

1 analysis of the IECs. And when we tried to do so, much
2 of what we were interested in was redacted. So we have
3 sort of an indication in many instances of the
4 precision, but in other cases we weren't able to get
5 the full benefit of their analysis.

6 Next slide please. The terms of
7 reference lack Bipole III review. We -- we regard this
8 as a very significant matter. The Bipole III high-
9 voltage DC transmission line and converter station is
10 not covered by the NFAT. This portion of the terms of
11 reference caused the parties to treat future
12 investments as sunk costs, even though much of it has
13 not yet been made; that is, the investment. And some
14 of that investment may be avoidable. This element of
15 the terms of reference, I believe, distorted the
16 analyses to favour hydro-centric alternatives.

17 Next slide please. Number 5. We
18 addressed the seventy-eight (78) year study period as
19 too long. I think, from my review of the transcript,
20 you've probably heard quite a bit of comment on that.
21 Let me just quickly pass through the things that struck
22 us.

23 It's no -- it's longer -- the seventy-
24 eight (78) year period is longer than typical, even for
25 Manitoba Hydro, which uses a twenty (20) year

1 projection for its financial forecast and a thirty-five
2 (35) year period for its Power Resources Plan.

3 Second, the use of the seventy-eight
4 (78) year period favours the hydro-centric plans that
5 have been proposed. They have near zero energy costs,
6 but they add generating capacity in very large blocks
7 that cost a great deal, require export sales until
8 their capacity and energy is recaptured for use by
9 Manitoba Hydro. And even after it has been recaptured,
10 export sales are a -- remain a large factor in their
11 power supply economics. They take a long time to build
12 and are projected to generate savings only after much
13 of their initial cost has been depreciated.

14 Third, the seventy-eight (78) year study
15 periods makes the plans susceptible to very difficult
16 to predict -- slide 6, sorry -- to predict structural
17 changes such as those that could alter relative costs
18 of assets and lower domestic demands, and also changes
19 in export prices.

20 Fourth, the seventy-eight (78) year
21 study period kind of masks the need for near-term rate
22 increases to support the hydro projects before they
23 begin to generate savings.

24 And one (1) -- one (1) final thing is
25 over a seventy-eight (78) year period, we can expect to

1 see changes in laws and changes in judicial findings
2 which will affect how revenues and costs are treated.
3 We've been through that in New York State, where our
4 clients have had an interest in the Niagra project, a -
5 - a 2,000 megawatt project -- hydro project. It was
6 built in the late 1950s. It was a very low cost. Its
7 costs have crept up over the years.

8 In -- when the New York ISO was
9 restructured and formed, the ancillary services from
10 that project became very valuable, so much so that it
11 represented a substantial portion of the revenues
12 obtained from the project. Because of our series of
13 decisions and administra -- administered by the New
14 York Power Authority, our clients were denied the
15 revenue credits associated with that, and those revenue
16 credits were instead diverted to the state treasury.

17 Now, those kinds of things can happen.
18 So even though we're looking at something that looks
19 like a benefit to the ratepayer, had this project been
20 analyzed from the ratepayer benefit in New York
21 beginning in 1950, looking forward seventy-eight (78)
22 years, I'm sure no one would have admi -- envisioned
23 that it -- throwing off substantial revenues which
24 would have cut its costs would have -- would have
25 redounded to the benefit of the state and not to the

1 customers intended to receive that power. So our
2 clients are paying more than they otherwise would.

3 Slide 7 please.

4 THE CHAIRPERSON: Could we go back to
5 slide 6, please? I -- and I -- I'm a bit surprised by
6 the initial statement on bullet 4, "Masks the need for
7 near-term rate increases," because we know that the
8 Preferred Development Plan encompasses 3.95 percent
9 rate increases for a generation, basically, per year.

10 MR. WHITFIELD RUSSELL: Yes.

11 THE CHAIRPERSON: So I'm -- I'm trying
12 to put that -- this initial statement in the context of
13 what is before us as a panel.

14 MR. WHITFIELD RUSSELL: I'm just saying
15 that as compared to the outlays of cash and the large
16 risks that are being undertaken with respect to Keeyask
17 and Conawapa in their early years, that they really
18 represent and -- and affect rates over the long term,
19 which may not be seen immediately because we're ramping
20 up slowly. If we took those costs into account
21 currently, with construction work in progress, as is
22 often the case in other jurisdictions, then we'd see
23 the full impact as we go along of those large outlays
24 for capital.

25 But because we borrow and we capitalize

1 interest and we put those things in service later, at
2 the same time they start throwing off export revenue,
3 you kind of mask the impact in the early years of what
4 you're undertaking.

5 Slide 8. Oh, I'm sorry. Slide 7. Now,
6 the net benefits claim for plans involving Keeyask and
7 Conawapa are highly dependent upon the magnitude of the
8 export revenues. That's not news to any of you.
9 Publicly available data on the historical magnitude of
10 these exports and the average price per kilowatt hour
11 sold revealed a disturbing trend of considerable
12 volatility and decline in export prices since 2006 and
13 '07.

14 Slide 8, please. And we see these
15 declines here in -- as you go down the chart. The firm
16 power price peaked out around fifty-nine dollars (\$59)
17 in 2005/2006, had a resurgence in 2009/2010, and then,
18 as the great recession took its toll, these prices
19 plummeted. And that's on the firm part, which you
20 would expect to be able to maintain its value over
21 time.

22 I noticed that there was a decline in
23 the gigawatt hours sold. But just looking at this from
24 the outside, it didn't offer all the protection that
25 one would have expected associated with firm -- firm

1 sale, dependable sales.

2 On the opportunity sales, of course,
3 there was a real plummet. These prices peaked around
4 sixty-nine dollars (\$69) in 2003 and '04. And for the
5 last period we have data reported by Manitoba Hydro, in
6 2012 and '13, it was down to twenty-three sixty-two
7 (23.62), twenty-three dollars and sixty-two cents
8 (\$23.62) a megawatt hour. That's -- that's quite a --
9 quite a hit.

10 In my business -- and -- and I have some
11 utilities like Manitoba Hydro as clients, the Navajos
12 in the Northeast portion Arizona, and they spill their
13 -- their reserve -- you call it a reserve; we call it a
14 reservation -- spills over into New Mexico. They have
15 their own utility. It's sparsely developed, but
16 they're a -- they're a winter-peaking entity in the
17 middle and adjacent surrounded by summer-peaking
18 entities. They have a very different need profile from
19 all of their neighbours, and as a result they benefit
20 from seasonal diversity.

21 And so -- but when someone like that
22 goes into the marketplace, and we do on behalf of the
23 NTUA, they're careful to watch the price at which
24 market power is available as compared to what they
25 would sell -- or -- or pay if they develop projects on

1 the -- on the reservation. And so that's a -- that's a
2 major thing.

3 So when I see these kinds of declines in
4 prices, it's kind of a red warning light. It's a --
5 it's a buy signal. This is -- this is a strong sign to
6 anybody who's developing power that, If I sell, I'm not
7 going. And -- and if I depend on sales of my
8 surpluses, I'm looking in -- into a diminishing market.
9 And secondly, there's a real opportunity out there
10 perhaps to develop long-term purchases and -- at those
11 low prices. Sellers will be desperate when these --
12 when these conditions develop.

13 Now, I ask you just to keep in mind this
14 final price, the average price for 2012/'13 for the
15 weighted average blend of the opportunity sales and the
16 dependable sales. Note that it's thirty-four point
17 five-seven dollars (\$34.57), the actuals for 2012/'13.

18 Slide 9, please. There is a risk
19 associated with the export revenue forecast. And the
20 overall forecast of weighted average export prices of
21 Manitoba Hydro has dropped in each successive forecast
22 since 2009, often by large percentages and amounts.

23 Slide 10, please. What we have here is
24 a tabulation of successive forecasts of off-system
25 sales revenues. And I want to draw your attention to a

1 few things. First, the -- the first at the top is
2 IFF09, the -- the distinction between the integrated
3 financial forecast for '09 and -- and 2010. And then
4 it goes down, has four (4) more, with the final being a
5 comparison of the IFF12 to the NFAT prices.

6 And I want to recall that we had a
7 actual price of 2012/'13 of thirty-four point five-
8 seven (34.57). But compare that to what the actual
9 price for '09 was forecasted back in '09 for that same
10 time period. So they were forecasting sixty-six point
11 nine dollars (\$66.9) and fifty-eight point seven
12 (58.7), and the actuals came in at thirty-four point
13 five-seven (34.57).

14 Now, everybody's had the same problem.
15 I'm not saying that anybody's done a bad forecast or --
16 or anything of the sort. But what I'm saying is that
17 the trend here was clear at this period. And the trend
18 was we had declining prices historically and -- and an
19 expectation of declining prices going forward as we
20 made each successive forecast.

21 Let me ask you to look at one (1) other
22 comparison on -- this is what, nine (9)? Okay. Two
23 (2) other numbers to look at on -- on slide 10. Look
24 at the column 2009/2020, and look at the top as of
25 2009. It was forecast in 2010. It was forecast that

1 the price would be a hundred and eight dollars (\$108).

2 It's ten point eight (10.8) cents.

3 It's -- the latest forecast in the NFAT
4 was fifty-nine point two (59.2). And notice that the
5 sixty-six point five (66.5) and fifty-nine point two
6 (59.2) also are roughly where the forecast was in the
7 IFF09 for 2012/2013. We've just seen a tremendous
8 plunge, not only in market prices, but in expectations.
9 Again, to me, this is -- this is a signal to buy power,
10 not to be entering the marketplace dependent upon very
11 large sales.

12 Slide 11, please. Manitoba Hydro's
13 selection of the Preferred Development Plan seems to
14 reflect its predisposition to build high-cost resources
15 largely for export in the initial period of the life of
16 the resources. And that, in -- in the face of these
17 prior data, makes -- raises a question in my mind.

18 Second, the market for firm exported
19 power is primarily determined by the marginal costs of
20 alternative thermal resources which presently tend to
21 have capital costs much lower than those of hydro. And
22 I've put there the nominal prices for simple-cycle gas
23 turbines and -- and combined cycle. And they're far
24 below the nine thousand dollars (\$9,000) a kW.

25 Now, there's another thing about a

1 market for -- for firm power if you're going into a
2 market as a winter-peaking entity into summer-peaking
3 supply base. The marginal cost will not be dictating
4 the price I pay. The marginal cost in the summer will
5 deta -- will dictate the price that I sell.

6 But when I go into the market as a
7 winter-peaking entity in a -- in a region dominated by
8 summer-peaking entities, there's lots of surplus
9 capacity in those off-peak periods, and the price of it
10 is far below the marginal cost. Frankly, sellers are
11 anxious to sell at a period when there is no real
12 demand locally for their power. And so I add that as a
13 reinforcement of this buy signal. Manitoba Hydro is
14 uniquely situated to make firm purchases during its
15 winter peak season, owing to its geographic location.

16 Slide 12, please. I get into a
17 discussion of how export revenues will not fully
18 recover costs of hydro. And I -- I do this not based
19 upon detailed access to the CSI information, because I
20 -- I didn't have that. So we went again to the best
21 available information that we could find. And -- and,
22 frankly, the Board's opinions, particularly one (1) in
23 January of 2012, was a very useful indicator of
24 expectations of costs of hydro projects, and also
25 indications of what had transpired with respect to

1 those costs versus the costs -- the prices of power
2 that could be expected in the export market.

3 Now, the -- there is a substantial gap
4 between the initial high -- the -- the high initial in-
5 service annual revenue requirement to recover the cost
6 of power for Wuskwatim, Keeyask, and Conawapa, which
7 was then specified by the Board. And -- and I mean no
8 offence by referring to the Board order as 'BO'. And
9 if you'll excuse me, that's unfortunate.

10 But they -- the costs that they were
11 projecting and -- and seeing for -- the completed cost
12 of power from a completed Wuskwatim, Keeyask, and
13 Conawapa were then a hundred dollars a megawatt hour
14 and up. And so there's a substantial gap between that
15 and the much lower prices at which Manitoba Hydro can
16 expect to sell its firm and surplus power at that time
17 in export markets. And they were looking at unit sale
18 prices of now more than six (6) or seven dollars (\$7) -
19 - sixty (60) to seventy dollars (\$70) per megawatt hour
20 on average for firm sales and oppity -- opportunity
21 sales combined.

22 And those are the kinds of prices that I
23 was addressing in those two (2) tabulations. It's a
24 blend of opportunity and firm prices.

25 DR. HUGH GRANT: Can I ask for

1 clarification, what -- what you mean by 'initial in-
2 service annual' --

3 MR. WHITFIELD RUSSELL: Well --

4 DR. HUGH GRANT: -- revenue
5 'requirement'?

6 MR. WHITFIELD RUSSELL: Yes, sir, Mr. -
7 - Mr. Grant. We all know when you have a -- a large
8 capital investment, be it a thermal plant or -- or a
9 transmission line, or a -- or a hydro plant, that we're
10 going to have a life-cycle cost expectation that's
11 relatively well below the cost of that resource when it
12 first enters service.

13 When you've got the full capital
14 investment and the initial cost at the in-service date,
15 you're going to have a much higher than average, or a
16 live -- levelized, price that you're going to need.
17 And for something that lasts sixty-seven (67) years,
18 that high initial price will last a long time, because
19 you're only taking a little bite of depreciation each
20 year.

21 So your fixed charges for financing,
22 added to the depreciation costs, added to insurance,
23 and all of the other costs associated with a fixed
24 asset are going to be at their highest at the beginning
25 of that project. So that's -- that's what I'm

1 comparing here, is the high initial in-service revenue
2 requirement for these projects is -- is pretty stiff.
3 And it will do down over time, make it more attractive
4 for export sales. But in the meantime, the -- the
5 retail ratepayer of Manitoba is -- is seeing the full
6 cost, the front-end cost. And the -- over time,
7 they'll get the benefit of that declining cost of power
8 on the fixed charges; but for the time being they
9 won't, initially.

10 Slide number 13. Here we've plotted the
11 prices that are projected for average dollars per
12 megawatt revenue on total export sales to the US. And
13 these are taken from the materials prepared by Manitoba
14 Hydro in the NFAT Appendix 11.3. And it's for the
15 three (3) -- three (3) cases indicate: the All Gas,
16 which is in light blue; the K19/Gas/250 case, which is
17 the red; and the K19/C25/750 scenario.

18 And what you'll see here is that these
19 prices remain below ten dollars (\$10) a megawatt hour
20 until about 1038 (sic). So going back to your Board
21 order --

22 MS. GENEVA LOOKER: 2038.

23 MR. WHITFIELD RUSSELL: 2038, pardon
24 me. So going back to your Board Order of 2012, they're
25 forecasting a price at the front end when you put a

1 Keeyask and Conawapa, the plant alone is going to cost
2 around ten (10) cents a kilowatt hour and we're looking
3 at these forecasts of prices blended from and
4 opportunity sales of well below -- sometimes well below
5 a hundred dollars a megawatt hour looking forward in
6 time. And in fact, on this chart it shows until 2038.

7 Slide 14, please. Just to comment on
8 the impact of prices and the study length. Manitoba
9 Hydro has incentive to maximize the firm exports and
10 lock in pricing for those firm exports. They command a
11 higher price. But it's constrained by the buyer
12 resistance that I described before and the cost of
13 alternatives to those potential buyers.

14 So you've heard this many times, as
15 costs escalate on the projects that you're adding in
16 Manitoba Hydro and during this long construction
17 period, the opportunity for costs to increase is of
18 course enhanced vis-a-vis the three (3) year building
19 period for, say, a simple-cycle or a -- or a combined-
20 cycle gas.

21 So as the costs escalate and the
22 forecast evi -- for -- for export prices fall or remain
23 low, the point in time at which the export revenue can
24 recover the increased costs is pushed farther and
25 farther into the future. And I think this is what's

1 going on, and it may have some bearing on the -- the
2 incentive to lengthen the study period associated with
3 these projects.

4 Slide 15 please. Keeyask and Conawapa
5 are depreciated over their sixty-seven (67) year lives,
6 and their costs will fall, will decline to a level
7 that's projected to fall below the price of exports.
8 But that crossover is not expected to occur for a long
9 time. And in the meantime, losses will accumulate
10 before eventually being reduced.

11 In comparison to the All Gas benchmark
12 case, we see -- we see a very similar trend in La
13 Capra's analysis, showing negative cumulative NPVs for
14 the first thirty (30) years for Plans 4, 5, and 6.
15 Now, 4 is the K19/Gas24/250. Based on the transcript,
16 I can't believe I have to make reference, but I'll do
17 it out of caution. You -- you've been told this many
18 times. Case 5 is K19/Gas25 with 750 megawatts and the
19 PUB service arrangement with both its investment and
20 its sale. And finally, Case 6 is K19 --
21 Keeyask19/Gas31 and 750 megawatt interconnection.

22 So this is just a copy of the chart from
23 LCA slide 24 -- slide 16, pardon me. And the -- you
24 see that with the Preferred Development Plan, there's a
25 very large dip in the cumulative NPV; and it doesn't

1 recover until something like 2054, as I recall. And
2 this -- this is showing you that you have very large
3 accumulations of negative net present value as the --
4 vis-a-vis gas in these early years. And it -- and it
5 recovers over time to become the best case.

6 I'm not holding myself as an expert on
7 the nuances of these La Capra calculations. But to me,
8 they were a vivid demonstration of the kind of risks
9 you take on with some of these Hydro plans.

10 And this -- this is a calculation of
11 cumulative NPVs over time. It's consistent with my
12 concern about the long time period over which it'll
13 take to get export revenues that become compensatory
14 with respect to the cost of the project being sold.

15 Slide 17. There was a concern expressed
16 by the Board in its 2012 order about Manitoba Hydro's
17 failure to incorporate up-to-date cost estimates in its
18 analyses and negotiation of export contracts. And the
19 recent increases in the capital costs of Keeyask and
20 Conawapa would exacerbate the squeeze. And they were
21 apparently not known at the time Manitoba Hydro
22 negotiated term sheets and export contracts.

23 Slide 18. There's an erosion of
24 benefits as the impacts the plan choice. So the
25 favourable economics of Hydro erode as their capital

1 costs increase. And we've seen a demonstration of that
2 in this proceeding. The initial \$1.7 billion advantage
3 enjoyed by the Preferred Development Plan over the All
4 Gas Plan diminished to 374 million as a result of an
5 \$800 million increase in estimates of capital costs
6 associated with Keeyask and Conawapa and the removal of
7 the Wisconsin Public Service investment decision. And
8 you can see that on Manitoba Hydro Exhibit 95 at slide
9 123.

10 And then with the addition of DSM at
11 Level 2, the Preferred Development Plan advantage over
12 the All Gas Plan falls to only 45 million. And again,
13 that's at slide 130 of the Manitoba Hydro Exhibit 95.

14 Slide 19. Hydro's levelized cost
15 comparison obscures the impact of the upfront costs of
16 its hydro plants. Manitoba Hydro reports a sixty-seven
17 (67) year life cycle levelized cost of six (6) to seven
18 (7) cents. And this is in Chapter 7 of the NFAT, Table
19 7.3. And it's also supported by the LCA/MH I-308
20 response.

21 These costs do not include the sunk
22 costs of Keeyask and Conawapa up through June 2014.
23 These numbers are far different from those found in the
24 Board order discussion in -- back in 2012, which showed
25 starting non-levelized costs in -- or -- or -- and

1 rates of nine (9) to ten (10) cents for Keeyask and
2 Conawapa. And this was before Manitoba Hydro made its
3 new cost estimates known in this proceeding.

4 Neither of these cost estimates include
5 about three (3) cents per kilowatt hour, which the
6 Board was using as the cost of a fully loaded -- that
7 is, fully utilized -- Bipole III. And that's discussed
8 at the Board order Nove -- in January of 2012 at page
9 55.

10 Slide 20, please. Adding the Bipole II
11 cost to hydro -- to their hydro plans drives up the
12 costs of those plants. A ten (10) cent cost of power
13 from Keeyask and Conawapa, which I'm using for this
14 illustration and from the -- from the Board order, is
15 forecast to be above the overall weighted average
16 forecast price of exports for many years, as I showed
17 on my slide 13.

18 When fully loaded, the cost of Bipole
19 III, as I noted, was about -- was then estimated to be
20 about three (3) cents a kilowatt hour. But when the
21 cost of Bipole III is added to the cost of Keeyask
22 alone, the deficit is even larger, because the
23 incremental costs of a 2,000 megawatt Bipole must be
24 spread across the incremental energy produced from only
25 a 630 megawatt project.

1 And when you make that calculation based
2 upon these illustrative data, it drives the incremental
3 cost to about seventeen point three (17.3) cents per
4 kilowatt hour. And that's before additional cost
5 allocations are considered in both Keeyask, Conawapa,
6 and potential for cost overruns on Bipole III.

7

8 (BRIEF PAUSE)

9

10 MR. WHITFIELD RUSSELL: Okay, slide 21.
11 What we've done here on slide 21 is we've taken that
12 combined cost of a hundred and seventy-three point two
13 (173.2) for Keeyask and Bipole III and we've plotted it
14 on those forecast embedded prices projected for the
15 same time period. And what you see is a very drastic
16 chart indicating non-recovery of the costs of Keeyask
17 and Conawapa for these many years, out until the mid-
18 two -- 2040 -- 2040s.

19

20 (BRIEF PAUSE)

21

22 MR. WHITFIELD RUSSELL: Slide 22. This
23 is not news to the Board, but I'll just -- I found this
24 statement in the January 2012 Board order to be
25 significant.

1 "To the extent that Manitoba Hydro's
2 real costs with respect to these
3 projects are not recovered from
4 export customers, it will fall to
5 Manitobans to bear financial
6 responsibility through reduced annual
7 net income of Manitoba Hydro and
8 reduced overall retained earnings and
9 increased electricity rates for
10 Manitobans."

11 Slide 23, please. Sunk costs are a
12 disadvantage to the hydro -- alternatives to the hydro.

13

14 (BRIEF PAUSE)

15

16 MR. WHITFIELD RUSSELL: By adopting the
17 analytical framework for the NFAT that Bipole III is a
18 sunk cost, Manitoba Hydro has biassed its analysis in
19 favour of the Preferred Development Plan and other
20 hydro resources that would make use of it.

21 Under the Preferred Development Plan,
22 Bipole II will be built first for commercial service in
23 2017 to 2018 to accept the output of Keeyask in 2019
24 and Conawapa in 2026. And again, if Conawapa is not
25 built, Keeyask is going to have to bear, on an

1 incremental cost basis, the full share of those Bipole
2 III costs.

3 What I've shown here is that -- slide 25
4 -- slide 24... Slide 24, pardon me. The \$3.3 billion
5 cost of Bipole III exceeds the incremental benefits
6 which the PDP is said to produce under many scenarios,
7 as compared to the benefits of the All Gas Plan.
8 Accordingly, adding the \$3.3 billion cost of Bipole III
9 to the NPV of the PDP and to other hydro plans while
10 removing it from non-hydro plans would make a vast
11 difference in the probability analysis.

12 And the next slide, slide 25, shows the
13 Manitoba Hydro quilt for several plans with updated
14 capital costs from Manitoba Hydro Exhibit 95 at slide
15 125. And as you scan this matrix, you will see that
16 subtracting the \$3.3 billion cost throws many of the
17 favourable results into negative territory and, of
18 course, reduces some of those, which are even bigger.

19 Slide 26. Process for approval on
20 capital projects is prejudice the result in favour of
21 the hydro alternatives. And we're in slide -- yes. So
22 it's apparent that the process by which Manitoba Hydro
23 obtains approval from moving forward on capital
24 projects warrants examination, although the Public
25 Utilities Board has regulatory authority over the rates

1 that Manitoba Hydro imposes on ratepayers, it doesn't
2 not appear to have authority to approve or disapprove
3 of its capital spending unless requested to take a look
4 at it by the Minister of Energy. That's my
5 understanding. I haven't done all of the legal
6 research, but that's my understanding of the conundrum
7 that is facing the Board.

8 And the Board noted in January 2012 that
9 while its jurisdiction does not extend to the approval
10 of the capital expenditures, the Board does have
11 jurisdiction over the approval of Manitoba Hydro's
12 rates in which Manitoba Hydro seeks to recover the
13 financing, operating, amortization, and expenses
14 directly attributable to Manitoba Hydro's capital
15 expenditures.

16 Most significantly is that at page 200,
17 they -- the Board noted that its role as a regulator is
18 to make sure the rates are justified and that Manitoba
19 Hydro is not seeking increased rates for recovery of
20 losses from mistakes, errors, and inefficiencies. It
21 must ensure inefficiency -- efficiencies are maximized
22 and that it exercises the discipline of maintaining
23 lowest cost.

24 Slide 27, please. In this case,
25 substantial amounts have been spent by Manitoba Hydro

1 prior to the government asking for this NFAT. And
2 although the Board could arguably deny cost increases
3 to cover any mistakes, errors, or inefficiencies found
4 in those -- those actions, that such an action by the
5 Board would undermine the financial indicators of
6 financial health. And I think that sort of summarizes
7 the conundrum in which the Board finds itself.

8 Now, the new evidence produced in this
9 proceeding appears to demonstrate that much less costly
10 scenarios are possible. But because of the sunk costs,
11 these -- these sorts of lower-cost scenarios may be
12 coming to light -- too late to help the ratepayers.

13 So the only -- given what I understand
14 to be the structure of the regulatory market here, the
15 only real remedy that's available is to subject all
16 major capital expenditures to an NFAT review before the
17 sunk costs become too substantial, before this type of
18 NFAT.

19 Slide 28. La Capra's Plan 17 looked
20 very --

21 THE CHAIRPERSON: Excuse me, Mr.
22 Russell, I -- I think it's probably an appropriate time
23 for us to take a rece -- to recess, because it's about
24 12:30. So I suggest that we break now and we have
25 lunch and then resume the proceedings at one o'clock.

1 We're about halfway through your presentation, so I
2 think it's an appropriate time to -- to make the break.

3 So we'll see each other again at one
4 o'clock. Thank you.

5

6 --- Upon recessing at 12:29 p.m.

7 --- Upon resuming at 1:07 p.m.

8

9 THE CHAIRPERSON: Good afternoon. I
10 believe that we're in a position to recommence the
11 proceedings. So I would, I guess, turn the microphone
12 over to Mr. Russell, please.

13 MR. WHITFIELD RUSSELL: Thank you.

14 THE CHAIRPERSON: I believe -- I
15 believe we're at slide 28.

16 MR. WHITFIELD RUSSELL: Thank you, sir.

17 LCA's Plan 17 looks promising. Plan 17
18 was the No New Generation scenario, and I think it came
19 as a surprise to La Capra themselves. Because of its
20 low cost, low risk, and substantial economic benefits,
21 I think that makes a strong case for refining this
22 option into a full-fledged plan or an early stage of a
23 long-term plan in order to reduce the risk and cost of
24 going forward.

25 Now, La Capra recognizes that Plan 17 is

1 not a fully fleshed-out plan but asserts that its
2 benefits are so significant that its elements warrant
3 serious consideration. And a few -- a few paraphrases
4 from the transcript, 6,076. I think it was Mr. Athas
5 or Athas, I'm not -- said, "Boy, that did a nice job on
6 economics." But his colleague said:

7 "However, it's not -- it's not that
8 we're done, go do this plan."

9 And then he said:

10 "I would recommend it only to the
11 extent that it raises issues that
12 seem to have promised improved
13 economics."

14 And then, in a dialogue with Mr. Bel at
15 5,727, he -- 5,730:

16 "It allows us to use existing hydro
17 more efficiently, imports on the
18 nights and weekends, and give us more
19 degrees of freedom."

20 It -- it was a surprising case to me
21 too, because it was accompanied by a relaxation of the
22 10 percent limit on imports that had been a mainstay of
23 the Manitoba Hydro planning criteria.

24 Slide 29. The LCA No New Generation
25 scenario involves DSM at levels one point five (1.5)

1 times the DSM assumed in Manitoba Hydro's initial
2 studies, the substitution of natural gas heating for
3 electric heating, development of a new 750 megawatt
4 interconnection to enter service in '29/'30 with the
5 US, increases both import and export capacity.

6 And the reason for that is the same
7 reason that the colloquy with Mr. Bel pointed out, that
8 this is kind of a -- Hydro has kind of an alchemy that
9 you can bring power in during off-peak periods, store
10 it, and send it back out as firm power at a higher
11 price. And this increases exports.

12 It relies on the relaxed import
13 limitations of 20 percent instead of 10 percent of
14 domestic load plus export obligations. And it called
15 for a continuation of existing diversity exchange
16 agreements.

17 Slide 30, please. Including sunk costs,
18 the Plan 17 appears advantageous -- advantageous. It
19 demonstrates favourable economics, despite being
20 burdened by 4.3 billion in sunk costs that Hydro
21 incurred in connection with developing new hydro and
22 transmission features that add little or nothing to
23 Plan 17's value.

24 Slide 31. Switching gears now, we're
25 going to move over to reliability. According to

1 Manitoba Hydro, the existing transmission system is
2 vulnerable to a common mode failure, such as a
3 catastrophic outage of either or both Bipoles I and II
4 for a period of months and years. It would be an
5 extreme event, and the regul -- the reliability
6 standards of NERC. It's catastrophic failure of both
7 Bipoles I and II would involve a simultaneous outage of
8 all four (4) single Bipoles, which is called an N-4
9 event, all four (4) single poles of Bipoles I and II.

10 Utilities must evaluate such scenarios
11 for risks and consequences, but they don't need to
12 mitigate them. The loss of a single pole of a Bipole
13 is considered an N-1 event, which has a less than 1
14 percent probability of occurring. And you can see the
15 response of CAC/MH II-013b.

16 Although the industry reliability
17 criteria require that Manitoba Hydro continue to serve
18 all firm load obligations after the occurrence of any
19 single contingency, which is called an N-1 event, those
20 criteria do not require that it continue serving all
21 the firm load after an N-2 event, let alone after an N-
22 4 event. Nonetheless, it is on the basis of an N-4
23 event and fear of an extended outage that caused Bipole
24 III to be built before Keystone and Conawapa.

25 Slide 32. Manitoba Hydro reliability

1 standards seem to have changed. In justifying Bipole
2 III for reliability reasons, Manitoba Hydro adopted a
3 deterministic standard requiring that it be able to
4 meet its peak demand after loss of both Bipoles I and
5 II for a period of months or years.

6 The deterministic reliability standard
7 used to justify Bipole III may not have been carried
8 over in developing plans for comparison in the NFAT.
9 That deterministic standard could be met either by
10 strengthening the interconnections to the US or by
11 adding Bipole III. For that purpose, Hydro chose the
12 more expensive option: adding Bipole III.

13 Slide 33. And I am recalling that the
14 third bullet has been redacted. The planned hydro
15 generation additions diminished the claimed reliability
16 benefits of Bipole III. Bipole III was initially
17 justified because it would enable power to be delivered
18 through the parallel path of Bipole III during the
19 outage of Bipoles I and II. So out of the northern
20 hydro that was available, 2,000 megawatts could
21 continue to be developed -- delivered if Bipoles I and
22 II were forced out.

23 The 2,000 megawatt spare transmission
24 capacity initially created by adding Bipole III would
25 drop, however, when Keeyask is added and will virtually

1 disappear once Conawapa is added. And under the
2 Preferred Development Plan, Manitoba Hydro plans to
3 upgrade its ability to import capacity from the USA to
4 replace the diminishing spare transmission capacity in
5 Bipole III.

6 What this is telling us is that Bipole
7 III, as a reliability -- in its reliability function,
8 is totally fungible with an upgrade of its import
9 capacity for Manitoba Hydro. You could solve the
10 problem either way.

11 Slide 34. Each of the Hydro plans
12 causes greater concentrations of the province's hydro
13 resources along the Lower Nelson River, and it's even
14 higher than the present 70 percent concentration. And
15 Manitoba Hydro failed to -- failure to evaluate these
16 impacts seems to be an oversight in that the same type
17 of catastrophic events that could take out Bipoles I
18 and II could also take out Bipole III as well, trapping
19 immense portions of Manitoba Hydro's resources without
20 an outlet for potentially extended periods of time,
21 cutting off remendues from -- revenues from export
22 sales as well. Without sufficient import capacity from
23 the United States, Manitoba could be plunged into
24 darkness under that scenario.

25 In the recently filed Manitoba Hydro

1 rebuttal they -- they qualified, and we didn't dispute,
2 that this would reduce the probability of such events
3 over what they are now with just Bipoles I and II.
4 That is, Bipoles -- Bipole III wouldn't, in its
5 unloaded providing spare capacity, improve reliability.
6 And they -- they -- we don't disagree that it would
7 lower risk. But there -- and -- and they calculated
8 something like one (1) in thirty-one hundred (3,100)
9 years after Bipole III from -- from environmental
10 events such -- earthquakes and so forth, winds,
11 tornadoes, and so forth.

12 But I did note in reading the PES report
13 -- and it was kind of difficult because we had to patch
14 our way around the redactions, substantial redactions.
15 But it did appear from the PES, Power Engineering,
16 report that they raised the risks inherent in Bipole's
17 III addition that were unrelated to weather events and
18 discussed possibilities of certain outages of all three
19 (3) Bipoles.

20 I don't know where that stands in the
21 record. I do know it was raised as an issue. I think
22 in the rebuttal Manitoba Hydro discussed the need for
23 more detailed modelling of Bipole III, to get a grip on
24 it. But putting three (3) Bipoles are not just
25 susceptible to environmental events. They're also

1 susceptible to systemic failures simply because of the
2 additional complexity of adding it to the very, very
3 complex control scheme which governs the use of the
4 HVDC system after outages of any of the poles or after
5 outages of the major 500 kV interconnection to the
6 United States. And I just want to highlight that that's
7 not -- the environmental factors are not the only thing
8 which would -- could potentially precipitate a loss of
9 all three (3) Bipoles.

10 Slide 35 was deleted in its entirety.

11 Could we go to 36? LCA's Plan 17
12 promotes both exports and imports. It's been
13 characterized in some of the documents as import-only
14 line, but it's -- it's really not. In addition to the
15 addition -- simply stated, addition of another 500 kV
16 US interconnection without additional hydro capacity
17 will increase Manitoba Hydro's exports as well as
18 increase its ability to import power. And that's
19 according to the -- the LCA analysis itself. And this
20 is important because Plan 17, again, is not an import-
21 only case.

22 Slide 37. This, what I found, is a very
23 interesting chart from LCA's discussion of the No New
24 Generation Plan. And what -- what you see in this
25 chart is the existing hydro and existing thermal -- new

1 thermal, you see being added there off to the years on
2 the far right side -- and imports. And what you see is
3 that when the new line under the LCA No New Generation
4 case is added in 2029, you see a bump up in exports.

5 And it's -- it's associated and really
6 correlated with increments of imports. And it's this
7 special alchemy that hydro projects with storage have.
8 They can shut them down, accumulate water in the
9 reservoirs behind the dam, and buy imported power to
10 serve the Manitoba load. That extra power-producing
11 capability accumulated during the off-peak hours,
12 during the purchase period, is then available in the
13 same amounts, later hours, when prices are higher. And
14 that's what is apparently demonstrated by the analysis
15 that LCA received from Manitoba Hydro and of its No New
16 Generation case.

17 Slide 38. And I wanted to focus on this
18 because below the figure in the La Capra report that I
19 just discussed on slide 37, the figure indicates that
20 adding the 750 megawatt line, along with purchasing
21 firm power, but not constructing additional generation
22 would enable Hydro to export substantially more power
23 in the annual amounts shown above the dotted line.

24 Now, this additional import capabilities
25 associated with that line, if that line were greater,

1 one would expect the import capability to be
2 commensurately greater, increasing the benefit of this
3 storage and return function that the hydro system can
4 perform.

5 Moreover, there's no reason to expect
6 that building that import line, that -- that line for
7 increasing imports, at an earlier point in time
8 wouldn't produce the same benefits. So we have those
9 benefits starting earlier and, with an upgraded line
10 above 750, maybe increased benefits starting earlier.

11 The final -- the bot -- the sentence at
12 the bottom of the first paragraph is -- after the
13 diagram in the La Capra report is:

14 "There is also an increase in
15 exports, which is the difference
16 between the load line and the top of
17 the resource bar mix (sic)."

18 And the final paragraph on the page
19 states:

20 "More input capacity..."

21 That is, transmission import capacity:

22 "...could allow higher imports in
23 off-peak periods, allowing exports of
24 hydro during peak price periods. The
25 value of these exports and of the

1 additional capacity in this scenario
2 is not like -- is likely to be
3 significant but at this point is
4 unknown, as that analysis has not
5 been conducted."

6 This indicates that much of the increase
7 in exportable energy in Plan 17 is a result of energy
8 imported in off-peak hours, stored as elevated water,
9 until needed as a source of firm capacity and energy
10 for on-peak exports.

11 Slide 39. Manitho -- Manitoba Hydro
12 objects to LCA's import line; that -- that's the
13 characterization that Hydro has given that proposal.
14 We contend that the Minnesota regulators would not
15 approve a new transmission line designed for exports to
16 Manitoba and, further, that there is insufficient firm
17 generating capacity in MISO that could be imported cost
18 effectively by Manitoba. And this -- these points are
19 made generally in the rebuttal testimony of Mr. Eric
20 Swanson of Winthrop & Weinstine, P.A.

21 I disagree with this for a number of
22 reasons. Slide 40. As we discussed earlier, MISO,
23 PJM, and SPP -- that's the Southwest Power Pole,
24 which is the large regional ISO south of MISO -- there
25 are summer-peaking regions that should have substantial

1 surplus capacity and energy available in the winter
2 when Manitoba Hydro experiences its peak demand.

3 The entities owning generation in the US
4 would have an incentive to increase their sales of firm
5 and non-firm power during the off-peak winter period,
6 and also to engage in diversity exchanges with Manitoba
7 Hydro.

8 The transmission providers in those
9 regions are required by FERC policies and rules to
10 provide transmission service under their open-access
11 transmission tariffs at cost-based rates. And they're
12 required to build needed upgrades when requested to do
13 so by a -- a transmission request and if the requesting
14 entity is willing to pay for the studies and pay for
15 the upgrades.

16 I further disagree -- slide 41. FERC
17 has established incentives -- because FERC has
18 established incentives to build and own transmission
19 facilities that make such activities quite lucrative
20 for the utilities in the United States. And one need
21 only look at how much Manitoba Hydro will pay Minnesota
22 Power for the Great North -- the Great Northern
23 Minnesota line, as in -- indicated in Mr. Jacobson's
24 slide 88. There's four hundred and ninety-nine dollars
25 (\$499) to \$567 million in ongoing O&M expenses that

1 Manitoba Hydro is expected to pay to Minn. Power.

2 Now, much of it -- to -- to compensate
3 Minnesota Power for this ownership and -- of 60 -- the
4 66 percent of the line above the 49 percent that
5 Manitoba Hydro will own. Those -- those -- when you
6 set rates for transmission in the United States and you
7 have an equity return for a large part of it, FERC has
8 been very permissive in allowing entities to claim very
9 high equity components of their capital structure.
10 Those equity components get very favourable treatment
11 on rates of return.

12 In addition, the utilities get to
13 collect taxes in what we call a normalized tax,
14 normalization, which in effect allows them to collect a
15 lot of taxes in the early years of a project that they
16 don't have to pay; it's paid back in later years. And
17 oftentimes, FERC will allow capital structure
18 reflecting more equity than the owner of the line
19 actually invests.

20 So here you've got a case of collecting
21 income taxes you don't pay on equity you didn't invest
22 and the associated returns. FERC has made the
23 construction and ownership of transmission facilities,
24 that's the bottom line, very, very attractive. And
25 we're seeing one (1) -- some evidence of that in -- in

1 the case -- in the exhibits of Mr. Jacobs.

2 FERC Order 1,000 requires transmission
3 products -- projects for public purposes, such as
4 renewable energy, to be considered in developing
5 transmission plans; while Hydro's ability to store off-
6 peak wind is a great enhancement to the ability of wind
7 machines to get demand charges and firm up their
8 ability. So if you're going to be proposing projects
9 to move wind power to Manitoba, those would arguably
10 fall within the public purposes defined in Order Number
11 1,000.

12 Next, Minnesota Utilities had petitioned
13 the Minnesota Public Utilities Board -- Minnesota
14 Public Utilities Board to consider a competing
15 alternative to the Great Northern Transmission Project.
16 In other words, this is another manifestation of how
17 lucrative and attractive it is to build transmission in
18 the US. You've got some Western Minnesota entities are
19 filing a competing application to the -- to the Great
20 Northern Transmission Project. And that's discussion
21 in a Megawatt Daily article on April 17th of this year.

22 Next, firm power sold during an off-peak
23 season tends to command only about half the demand
24 charge associated with on-firm peak power. So when
25 you're going -- that's another illustration of -- of

1 when you're going, as a winter entity, to a summer
2 peaking region to buy power, it's off-peak power, it's
3 not -- the pricing is not governed by marginal cost of
4 new capacity, there's plenty of surplus capacity in the
5 off-peak period, and those demand charges tend to be
6 lower than what you would see if you wanted round-the-
7 year, seasonal peak, summer power.

8 Slide 43. Forty-two (42) is deleted, as
9 I recall. Oh, I'm sorry. There is one (1) bullet. If
10 Plan 17 had been evaluated earlier, and if Bipole III
11 did not already exist, its cost would have to be added
12 to the cost of any plan for developing Keeyask and
13 Conawapa.

14 That's at the heart of my criticism of
15 the NFAT analysis of economic plans, is that if -- if
16 these sunk costs associated with Bipole III did not
17 already exist, when you came to evaluate Keeyask and
18 Conawapa, you'd have to add those costs into it. And
19 that would make it certainly less attractive when you
20 carried out these economic studies going far into the
21 future.

22 Forty-three (43). Now I'm beginning my
23 response to the Manitoba Hydro rebuttal. The Hydro
24 rebuttal to us addresses the reliability justifications
25 for Bipole III as described in the response MH/MMF/WRA-

1 004a and 'b'.

2 Hydro proceeded with development of
3 Bipole III to address the risk of an extended outage --
4 extended loss of both Bipoles I and II in an event
5 expected to occur no more than one (1) day in seventeen
6 (17) years. It's a one (1) day in seventeen (17)
7 event, we'd say. Except to the proposition on our part
8 that the spare transmission capacity created by Bipole
9 III without Keeyask or Conawapa would lessen the risk
10 and the costs associated with loss of both Bipoles I
11 and III.

12 I'm going to skip over the redaction
13 here.

14 We also questioned how Bipole III could
15 fulfil its role as a backup to Bipoles I and II once it
16 is loaded with Keeyask and Conawapa power. And for
17 that reason, we had favoured an additional tieline to
18 the US.

19 Slide 44, please. Hydro recognized that
20 an additional link to the US was a valid alternative to
21 Bipole III; didn't dispute the concept. But in
22 analyzing the alternatives to Bipole III for purposes
23 of reliability after loss of Bipoles I and II, they
24 created a different and deterministic reliability
25 standard for judging the adequacy of that alternative.

1 And by 'deterministic', I mean it's like
2 the N-1 criteria. It's not probabilistic; it's
3 deterministic. And it doesn't matter if you have a
4 piece of switch gear which is 2 feet long. If it's
5 subject to an N-1 outage that will affect the system,
6 we look at it. If it's a 100-mile-long line, it's
7 still subject to an N-1 criterion as -- as would align
8 just 4 or 5 feet long.

9 These -- this -- this is what we mean by
10 a deterministic criteria. it's not probabilistic; it's
11 black and white. If you meet it, you keep all loads in
12 service after an N-1, that's what we mean by
13 'deterministic'.

14 So they invented a new one (1) -- well,
15 I shouldn't say, "invented." They applied a new
16 deterministic reliability standing -- standard in
17 judging the adequacy of the alternative to Bipole III
18 for reliability when you went and built enhanced
19 interconnection to the United States.

20 The alternative involved a 1,500
21 megawatt AC line. Now, the Bipole III would have
22 provided 2,000 megawatts of backup so they could
23 continue bringing hydro from the North in the amount of
24 two thousand (2,000) in the event they lost Bipoles I
25 and II. The alternative being investigated and

1 rejected would have called for a 1,500 megawatt import
2 line, 500 megawatts of additional gas in Manitoba; but
3 it also insisted upon the 1,500 megawatt line being
4 backed up by an additional 1,500 megawatts of gas
5 turbine capacity.

6 The additional cost of this new
7 generation made the alternative of a new
8 interconnection across the border more expensive than
9 Bipole III without new generation, which involved no
10 new generation. And that alternative of a new
11 interconnection was rejected.

12 Now, at page 5 of its new rebuttal,
13 Manitoba Hydro states that the alternative to Bipole
14 III considered in the CEC proceeding was a new US
15 interconnection that they characterized as an import-
16 only transmission scenario. I am unfamiliar with the
17 notion of an interconnection that would function as a
18 import-only line.

19 Any new US transmission line tying
20 Manitoba to the US would be no different in this
21 respect from the proposed 750 megawatt tie that
22 Manitoba Hydro itself is planning and could be expected
23 to provide opportunities for both imports and exports.
24 Indeed, this was supported by La Capra's presentation
25 on the No New Generation Plan.

1 Slide 45. Manitoba Hydro further
2 insisted that it added on the cost of 1,500 megawatts
3 of new gas turbines because an import-only line must be
4 connected to some form of firm generating capacity. We
5 believe that a new tie to the US would not need to be
6 backed up by additional firm gas generation, especially
7 generation that would be needed only once in seventeen
8 (17) years.

9 Manitoba Hydro could rely upon its
10 contingency reserves while it shops for longer-term
11 supplies for a week, a month, or port -- or longer
12 periods, to back -- during an extended outage to
13 provide backup during Bipoles I and II. This is indeed
14 what happens in the US historically with large delays
15 or long delays of large nuclear plans. It also
16 happened after the loss of Three Mile Island I and II.

17 It's -- people don't plan and build
18 extra capacity to back up their systems for these out-
19 of-the-ordinary, extreme losses. What they do is they
20 rely upon the installed reserves of the interconnected
21 system as a whole. And, sure, they have to go into the
22 market in a disadvantageous position. They have to pay
23 more power -- pay more for the power they buy.

24 But the fact of the matter is having
25 interconnections -- and this is one (1) of the major

1 advantages of interconnections -- is that you can rely
2 upon your neighbours. There's a long history in the
3 industry of doing so. And indeed, in the NFAT, I quote
4 in my report portions where Manitoba Hydro cites just
5 this kind of opportunity as being available from
6 enhanced interconnections.

7 Manitoba Hydro's CEC analysis show that
8 it would need backup for loss of both Bipoles I and II
9 primarily during the winter peak. With a new tie to
10 the US, Manitoba Hydro could expect to call upon winter
11 surpluses of generating capacity in the primarily
12 summer-peaking system in the US, and obtain that power
13 at a relatively low cost vis-a-vis peak price power in
14 the US.

15 Manitoba Hydro seems to agree with me on
16 this. At page 6, lines 2 to 6 of its latest rebuttal
17 testimony, in speaking of its new US tie, they sta --
18 they stated, quote:

19 "The proposed transmission line will
20 have the added benefit of providing
21 firm import transmission capacity to
22 Manitoba. As a result, Manitoba
23 Hydro will be able to gain access to
24 surplus energy from the MISO market
25 at essentially no incremental capital

1 or operating costs. There will only
2 be variable costs associated with the
3 cost of energy needed to supply
4 Manitoba in times of unexpected
5 outage."

6 Close quote. Moreover, by insisting
7 that a new -- new US tie would have to be accompanied
8 by an additional 1,500 megawatts of gas generation,
9 they create an apples-to-orange comparison. In other
10 words, because all Bipole III provides, if Keeyask and
11 Conawapa are not built, is an alternative path for
12 Hydro to reach its existing northern hydro. It doesn't
13 create an additional 2,000 megawatts of generating
14 capacity for the system.

15 So to insist that a new tie to the US go
16 out and -- and bear the burden of those additional
17 megawatts of firm generating capacity is -- is an
18 apples-to-orange comparison. That, in reality, the
19 1,500 megawatt tie to the US has access to an array of
20 generation sources as compared to Bipole III, which
21 could only access existing Northern generation.

22 47. At pages 1 to 3 of the rebuttal,
23 Hydro challenges our position that it has implemented a
24 less-restrictive standard than it did in the CEC
25 proceeding. Hydro seems to have missed my point. Its

1 rebuttal focusses on the adequacy of the spare
2 transmission capacity and not upon adherence to its --
3 its insistence that imported generating capacity meet
4 the strict new deterministic standard and be firm and
5 backed up.

6 My calculations indicate that with
7 Bipole III in the NFAT case, Manitoba Hydro has not
8 arranged for sufficient imports to meet the strict
9 standard it set out in the CEC for covering a loss of
10 both Bipoles I and II. Let me clarify what I'm driving
11 at here.

12 In putting Bipole III, it provides a
13 spare path for the existing hydro. Once you add
14 Keeyask, that's cut -- that spare capacity is cut by
15 six thirty (630). Once you add Conawapa, the spare
16 capacity for the outage of Bipoles I and II is gone.
17 They then, under their Preferred Plan, enhanced
18 transmission import capacity from the United States,
19 the very concept they rejected in the CEC proceeding.

20 And so what I'm saying is, as opposed to
21 the CEC proceeding, where they -- Hydro insisted all
22 the capacity be firm, to meet firm loads without
23 Bipoles I and II, in the Preferred Development Plan
24 they fall short. They're importing less firm capacity
25 than they insisted was the standard in the CEC.

1 The second bullet. I think the Board
2 should care about the sequence of -- of events because
3 Hydro created a stiff reliability standard to support
4 the need for Bipole III and then seemed to back away
5 from it in the -- in the NFAT. The stiffer standard
6 occasioned little or no mention until Hydro filed its
7 most recent rebuttal.

8 As a consequence, Bipole III has been
9 treated as a sunk cost. And then, in the NFAT -- then
10 in the NFAT, and then has been repurposed. In other
11 words, it served as a spare for Bipoles I and II. And
12 then when you load it up with capacity, we need some
13 other spare. And that would be the inter --
14 interconnection -- the new interconnection capacity to
15 the United States.

16 The second bullet. Moreover, by backing
17 away from the CEC standard in the NFAT proceeding, they
18 reduced the needed amount of firm purchases but has not
19 updated its evaluation of a US tie on that same basis.

20 Slide 48. And I understand the last
21 clause of this has been redacted, so I'll just read to
22 that point. In the NFAT, the hydro-based plans call
23 fulfilling the spare capacity of Bipole III with the
24 output of Keeyask and Conawapa. This would diminish
25 the ability of Bipole III to provide spare capacity for

1 both Bipoles I and II.

2 In those hydro-based plans, Hydro would
3 rely upon a new tie to replenish the spare Bipole III
4 capacity with capacity on their new US tie. Thus,
5 Hydro is planning to provide backup from the US to
6 replenish the diminishing ability of Bipole III to
7 cover the loss of both Bipoles I and II. One wonders
8 why it did not build a new lower-cost interconnection
9 to the US in the first place.

10 And this next chart is from Hydro's
11 rebuttal at Figure 1. And what it shows you is -- the
12 blue line is showing the amount of surplus ability to
13 meet firm load created dur -- during an outage of
14 Bipoles I and II, created by Bipole III. And you'll
15 see there in 2019 it -- 2017, the deficit in their
16 ability to do so today is reduced from about twelve
17 fifty (1250) and -- and becomes a -- a surplus of
18 around seven hundred (700) to seven-fifty (750).

19 Then as you see, that line tails off to
20 the right as Keeyask and Conawapa and load growth kick
21 in. You'll see that the second US tie kicks in. What
22 this shows us is that capacity on the interconnection,
23 from the US, and reliability provided by Bipole III are
24 fungible. They're one (1) and the same.

25 The chart shows, slide 50, that the US

1 provides -- the US tie provides reliability of benefits
2 that are like those provided by Bipole III.

3

4 (BRIEF PAUSE)

5

6 MR. WHITFIELD RUSSELL: The amount
7 provided by the 750 megawatt 500 kV Manitoba-Minnesota
8 Transmission Project and the tie within Minnesota
9 itself could have been increased and could be built to
10 a higher megawatt level.

11 Slide 51. At page 6 to 7 of its new
12 rebuttal, Hydro claims that Footnote B to NERC standard
13 TPL002 allows it to drop firm exports after an N-1
14 contingency. And I'm shifting gears here. We're
15 talking about another disagreement we had with Hydro
16 over the reliability criteria.

17 However, Footnote B addresses an
18 exception to the general rule. The general rule is if
19 you have an N-1 contingency, firm transfers cannot be
20 curtailed for those kind of events. Instead, Hydro
21 employs a number of special protection schemes to deal
22 with its unique transmission system that cannot meet
23 the usual operating reliability levels. So they can't
24 meet the N-1 standard and keep a firm export to the US
25 going if they lose the major tie. That violates the

1 general rule. They look for solace and comfort in
2 Footnote B. I don't think it's there.

3 Note B says:

4 "Planned or controlled interruption
5 of electric supply to radial
6 customers and some local network
7 customers connected to or supplied by
8 the faulted element, or by the area,
9 may occur in certain areas without
10 impacting the overall reliability of
11 the interconnected system. To
12 prepare for the next contingency,
13 system adjustments are permitted
14 including curtailments of power
15 contracted firm, non-recallable
16 reserved electric power transfers."

17 Now, that's two (2) sentences. The
18 first sentence if the -- is the original and primary
19 reason for Footnote B. What they're talking about is
20 we always analyze the system. Every N-1 contingency
21 that's possible in a transmission system is analyzed to
22 see its consequences.

23 So if you've got a large load served
24 from a line as a tap, and that line sof -- suffers an -
25 - an N-1 outage, the protection equipment takes the

1 line out. And as a consequence of that, what was
2 otherwise a firm load is dropped during an N-1
3 condition. Now, if it's very expensive to build
4 duplicate transmission to that load, and it's not a
5 major consequence for purposes of operations, Footnote
6 B was drafted and originally intended for that
7 situation.

8 Now, the Footnote B goes on to permit
9 curtailments with -- through system adjustments of firm
10 exports if necessary to protect the system from further
11 risk. System adjustment is a different category of
12 event -- or reaction than what Hydro uses in response
13 to its loss of the main tie to the US.

14 When Hydro loses its 500 kV tie to the US
15 all the exports on that line are cur -- are -- are
16 intercepted and stopped by what we call a special
17 protection system. Without human intervention, that
18 outage is sensed, and an equivalent signal -- let's say
19 the 1,732 megawatts, which is the rated capability of
20 the existing 500 kV tie.

21 If you lose the 1,732 megawatt export on
22 that line, a signal is sent to the Northern Hydro, and
23 that amount is shut down very quickly so that we don't
24 have excessive amounts of power pouring into southern
25 Man -- Manitoba where there's no place to use it. That

1 would just drive up the frequency in Manitoba and add
2 to the potential for instability across its ties with
3 the United States.

4 So this special protection scheme
5 without human intervention is different from what is
6 commonly called a system adjustment. A system
7 adjustment means we have the N-1 event, the line has --
8 the transaction still keeps going. And oftentimes, we
9 have a twenty (20) or thirty (30) or half-hour rating
10 on the line, and the transaction can keep going for a
11 while. But under the rules, we're supposed to bring
12 the rating and power flow on the line back within rated
13 capabilities within certain time periods.

14 That's what this system adjustment is
15 all about. You go out and find somebody on the far
16 side of the export to bring up its generation while you
17 back down generation on the near side, on the exporting
18 system. That's what's talked about. The SPS, with its
19 -- without human intervention, this is not a system
20 adjustment as I understand the term.

21 Slide 52. Manitoba Hydro's special
22 protection system, in dropping firm transfers to the
23 US, goes well beyond the radial customers of some local
24 network permitted in Footnote B. The US is not simply
25 a remote load served by a radial transmission line, and

1 it is not a local network on the Manitoba Hydro system.

2 Note B is applicable to minor firm load
3 interruptions that would otherwise be costly to avoid.
4 Note B does not preclude the normal practice of system
5 adjustments to prepare for the next contingency. And
6 it can include dropping firm customers or reducing firm
7 transfer in a controlled manner. However,
8 automatically dropping firm customers or transferred --
9 transfers with an SPS would not qualify as doing so in
10 a controlled manner.

11 In conclusion, Hydro's Preferred
12 Development Plan has not been supported by the NFAT
13 submission, and if approved and built will impose
14 unnecessary and excessive risks on ratepayers.

15 The pursuit of DSM, imported power
16 supported by enhanced import capacity on its system in
17 connections and future gas generation would -- would be
18 far lower in cost in the years through 2031, and lower
19 in risks than would be pursuit of the Preferred
20 Development -- Preferred Development Plan.

21 The Preferred Development Plan would
22 exacerbate the concentration of its generating
23 resources along the Nelson River hundreds of kilometres
24 north of its Manitoba Winnipeg load centre, and would
25 put more eggs in that basket.

1 And that concludes my presentation.

2

3 (BRIEF PAUSE)

4

5 MR. RICHARD BEL: Could you go over
6 that last bit about the SRS event?

7 MR. WHITFIELD RUSSELL: The SPS --

8 MR. RICHARD BEL: So what is the
9 argument between you and Hydro?

10 MR. WHITFIELD RUSSELL: Well, they're -
11 - what they're saying is -- and -- and don't get me
12 wrong. I'm -- I'm not -- I'm not suggesting we abandon
13 it. I think a little bit of history is worthwhile and
14 -- but -- but in essence, what they do is this.

15 When they lose the major tie to the US,
16 oh, and they lose one (1) of the poles on the HVDC, the
17 SPS system backs down generation and curtails exports
18 to the US, okay? And it does it without human
19 intervention, under the control of protected systems.
20 It does it quickly, and it provides a -- a protection
21 to the system.

22 However, on its face, it violates the N-
23 1 standard that you've got to keep your firm exports
24 going after the N-1 event. It's always been that way.
25 US understands it. The -- the -- it's what makes the

1 exports of low-cost power, hydro power, available.

2 I'm not suggesting we get rid of it.

3 I'm suggesting that maybe the -- MISO is -- is

4 reluctant to allow any more SPS, and they will allow --

5 they seem to have grandfathered this one (1). And --

6 but they don't allow any increase in the amount of run

7 back on the hydro systems, the northern hydro, or a run

8 back on the DC Bipoles whenever Hydro expands.

9 So that kind of constrains a little bit

10 the planning that could go on. For example, the 1,732

11 megawatt line -- rated line going to the US. It is

12 capable of being uprated by about -- from 2,000 amps up

13 to 2,500 amps, about a 25 percent increase in delivery

14 -- in transfer capability. But it cannot be done that

15 way. And it could be done by increasing the rating of

16 what they call a Roseau series capacitors, but it can't

17 be done because MISO has a firm policy against allowing

18 an increase in the amount of run back that's required

19 and dropping of exports as -- as a result of this SPS.

20 So the situation is we don't want to get

21 rid of this. It's been there a long time. The buyers

22 are aware of it. But there is resistance, on the part

23 of MISO in its -- in its role as enforcing reliability,

24 to expanding it. And they're also firmly -- strictly

25 limiting any further or future SPS. But the SPS is --

1 it's -- it's an automatic protective system for
2 Manitoba which kicks in without human intervention and
3 violates the general rule that you can't cut a firm
4 export after an N-1 event.

5 MR. RICHARD BEL: Okay. Good. Second
6 question. You're recommending that the 750
7 transmission line be uprated for --

8 MR. WHITFIELD RUSSELL: Yes, yes.

9 MR. RICHARD BEL: -- and that would
10 enhance exports and imports?

11 MR. WHITFIELD RUSSELL: Possibly. But
12 I was more focussed on the import. Now, what happ --
13 what -- you'll notice that there's a -- quite a large
14 discrepancy between the transfer capacity for exports
15 and the transfer capacities for imports, both on the
16 existing line and with the enhancement of the new 500
17 kV line.

18 It's not that it's limited by the
19 capability of the conductors. The conductors
20 themselves are probably worth about 3,000 megawatts on
21 each circuit. The existing circuit, because of
22 reactive resistance and the characteristics of the
23 system, is operating at 1,732 megawatt rating.

24 When you add that second line, the
25 import capacity does not go up commensurately to 1,732

1 megawatts. What I understand is the problem, and I
2 think we have a data response to that effect, the limit
3 on import capability -- enhancing import capability to
4 Manitoba is the result of a concern with voltage
5 collapse down around Minneapolis and points north on
6 the 500 kV line.

7 Voltage collapse means that you've got a
8 lack of reactive support, which can be fixed without
9 adding new poles and wires, but by adding reactive
10 support and devices which enable -- enable the system to
11 avoid voltage collapse during the precipitating event.
12 Those kinds of things can be added and upgrade the
13 capacity to near its ampacity rating of the conductors.

14 MR. RICHARD BEL: Thank you.

15 THE CHAIRPERSON: Now, some of the
16 statements you made address the transmission capacity
17 that would be available on Bipole III in a context
18 where Keeyask and Conawapa were built.

19 MR. WHITFIELD RUSSELL: Yes.

20 THE CHAIRPERSON: Now, say we take
21 Conawapa out of the picture.

22 MR. WHITFIELD RUSSELL: Okay.

23 THE CHAIRPERSON: Then it would leave
24 up transmission capacity -- there would be some free
25 transmission capacity on Bipole III.

1 MR. WHITFIELD RUSSELL: Yes.

2 THE CHAIRPERSON: Does that change any
3 of your conclusions?

4 MR. WHITFIELD RUSSELL: I think -- no,
5 I think the amount of firm imports shown in the
6 Preferred Development Plan are still less than would
7 have been required under the deterministic criteria set
8 forth at the CEC. So in degree, yes. But in -- in
9 consequence, no.

10 In other words, if you cancel Conawapa,
11 there would still be 2,000 megawatts less the six-
12 thirty (630) would still be available for spare. So
13 you would reduce the spare capacity available from
14 Bipole III if you did not -- by adding Keeyask, but you
15 wouldn't wipe it out. And -- and that's your question,
16 I take it.

17 THE CHAIRPERSON: Yes. But that kind
18 of obviates the need for an intertie then for -- from
19 the standpoint of needing US imports for reliability
20 purposes?

21 MR. WHITFIELD RUSSELL: Yes, it argues
22 in support of that, yes. It indicates.

23

24 (BRIEF PAUSE)

25

1 MR. WHITFIELD RUSSELL: Oh, I -- I miss
2 -- I misunderstood your question. Negates the need for
3 an import capacity increase for reliability?

4

5 (BRIEF PAUSE)

6

7 MR. WHITFIELD RUSSELL: May -- may I
8 have you re-ask the question, please?

9 THE CHAIRPERSON: Well, you know, I
10 think it would be best if we went back to the slide
11 that indicates that -- I'm trying to find it. But it
12 indicates that, you know, if -- once Conawapa is built,
13 then the available transmission capacity on the Bipole
14 III is used up --

15 MR. WHITFIELD RUSSELL: Yes.

16 THE CHAIRPERSON: -- the shortage. In
17 fact, there's a shortage.

18 MR. WHITFIELD RUSSELL: That's correct.
19 Correct.

20 THE CHAIRPERSON: Right. And so -- and
21 that kid supports the thesis that an intertie would be
22 the approach that should be used to address that
23 shortage?

24 MR. WHITFIELD RUSSELL: Yes.

25 THE CHAIRPERSON: Okay. Now, if you

1 take Conawapa out of the picture, what does that --
2 does that change your recommendation?

3 MR. WHITFIELD RUSSELL: It'll
4 distinguish --

5 THE CHAIRPERSON: So Conawapa's out of
6 the picture. You have excess transmission capacity out
7 of Bipole III. You don't -- you don't need to rely on
8 US exports in that scenario. I mean, adding an
9 intertie would certainly increase the reliability?

10 MR. WHITFIELD RUSSELL: Yes.

11 THE CHAIRPERSON: But you don't need
12 it. I mean, you don't need it because you have plenty
13 of export -- you have plenty of capacity on that Bipole
14 III transmission line?

15 MR. WHITFIELD RUSSELL: Well, the
16 Bipole III transmission line would read its -- its
17 function as a backup would be reduced by 630 megawatts,
18 okay.

19 So if there were insufficient
20 transmission import capacity in that situation you --
21 you would need more -- another line, yes. But that --
22 your -- your question is related to transmission
23 capacity. And my -- my testimony was about the amount
24 of firm capacity backing up any kind of
25 interconnection.

1 And what I'm saying is that the
2 insistence that the increased 1,500 megawatts of
3 transfer capacity in the alternative to Bipole III as a
4 reliability premise -- at the CEC they said you had to
5 go out and buy 1,500 megawatts of firm capacity in the
6 US to put on that line, and I disagree.

7 So I took and I went to the pre -- the -
8 - the load capacity tabulations for the Preferred
9 Development Plan and I said, Well, did they impose the
10 same standard on themselves when they expanded the
11 system under the Preferred Development Plan. And what
12 I found was that under the Preferred Development Plan,
13 use of the CEC proceeding would dictate -- a CEC
14 standard would dictate something like 748 megawatts of
15 firm purchases, but they only had six hundred (600) and
16 -- six hundred and five (605) planned.

17 So that -- that's my point. My point is
18 that it -- it -- that insistence of megawatt-for-
19 megawatt backup on the interconnection to the US was
20 not carried forward in the NFAT, and it helped the
21 economics of the NFAT to depart from that prior -- from
22 that prior insistence.

23 So -- but -- but to go to your
24 transmission question, I'll -- I just have to do some
25 calculations and -- and answer you. I -- I don't have

1 it at my fingertips.

2 THE CHAIRPERSON: Now, I guess the --
3 one (1) of the suggestions that was made by La Capra is
4 to consider removing a 10 percent cap on imports?

5 MR. WHITFIELD RUSSELL: Yes.

6 THE CHAIRPERSON: Now, there are
7 strategic considerations involved here, aren't there,
8 in a sense that, you know, if Manitoba was to remove
9 that 10 percent cap, it then becomes increasingly
10 reliant on US sources of energy to supply its needs?

11 MR. WHITFIELD RUSSELL: Yes, but there
12 seems to be plenty of it. And because they can store
13 so much energy in the hydro system, I don't think that
14 that poses an -- an immense risk.

15 THE CHAIRPERSON: But don't -- let's
16 not forget here, we're talking about resource planning.
17 And you're planning ten (10) years ahead of time. And
18 you're saying in lieu building a dam or building a gas
19 plant, we're going to increase imports from the US up
20 to 20 percent, allow us to import power from the US?

21 MR. WHITFIELD RUSSELL: Yes.

22 THE CHAIRPERSON: That's assuming that
23 power's available in the US for us to import, isn't it?

24 MR. WHITFIELD RUSSELL: Yes, and for
25 the reasons that I stated, I think a winter-peaking

1 system shopping for power from a summer-peaking system,
2 there should be plenty in the off -- off-peak season in
3 the -- in the US.

4 THE CHAIRPERSON: But to the extent
5 that you're going to rely on US power, you're going to
6 have to firm it up. You're going to have to -- to sign
7 a contract to get that power in place so you -- you
8 know -- you -- it's available when you need it?

9 MR. WHITFIELD RUSSELL: Yes, but a -- a
10 reservation -- as I said, a reservation for -- let --
11 let me just say it this way. When you look at rate
12 schedules for industrial power, when you look at rate
13 schedules for contracts for purchase power -- that is,
14 one (1) wholesale buyer buys from another -- the price
15 of capacity, firm capacity, in the off-peak season --
16 you take a summer-peaking system in the US. It's being
17 asked to provide firm power in the off-peak period.

18 Those demand charges associated with
19 that power are well below the marginal cost of
20 capacity. They are delighted to have an additional
21 sale during their off-peak season, because they've got
22 extra capacity and it's -- it's like incremental
23 revenue without much in the way of incremental cost.

24 So, yes, you would increase -- you would
25 -- you would need some more power, but it tends to be

1 much cheaper than the marginal cost of adding capacity
2 in -- in Manitoba itself. So the -- the question is:
3 Is it going to be deliverable on a reliable basis? And
4 there's no reason to believe that reliance for 20
5 percent of your energy, much of which could be brought
6 in during the off-peak hours, even during the winter
7 peak, would -- would endanger the hydro system. I
8 haven't seen calculations or -- or claims that that's
9 the case.

10 THE CHAIRPERSON: But, you know, the --
11 the -- if -- if we were to go along with that idea
12 though, we are -- would then become dependant on US
13 supply in a context when we need it without having the
14 knowledge that it's firmed up. Without --

15 MR. WHITFIELD RUSSELL: Oh --

16 THE CHAIRPERSON: -- without being sure
17 that there's contract supply available that will be
18 supplied if something goes wrong?

19 MR. WHITFIELD RUSSELL: I'm -- I'm not
20 making myself clear, and -- and let me say it again.
21 And maybe I should just devise a hypothetical. Let's
22 say instead of looking at Keeyask, looking at firm
23 power new gas generation in Manitoba, e decide to go to
24 MISO or Southwest Power Pole, or maybe over to Chicago
25 in the -- in the PJM area, their western extremity, and

1 line up a firm purchase, okay? And -- but I only want
2 it for the peak months of the winter. And that -- that
3 -- believe me, in the -- in a summer-peaking system
4 there will be capacity available, and it will command a
5 far lower price. Firm power during the off-peak in the
6 US, will command a far lower price than it would for
7 year-round or a peak period.

8 So it's there and it's available at a
9 price below what you would pay to build something new
10 in Manitoba to meet the winter peak in Manitoba. And
11 now that -- that's my experience in -- in buying power
12 and selling power.

13 THE CHAIRPERSON: Well, I -- I think
14 that -- you know, where I'm disagreeing with you is
15 that we're -- we're talking about supplanting firm, you
16 know, generation capacity in Manitoba in favour of US
17 generation capacity.

18 MR. WHITFIELD RUSSELL: Yes.

19 THE CHAIRPERSON: Now, we would be
20 doing that at a time when -- you know, admittedly,
21 we're arguing about when -- when Manitoba needs extra
22 generation capacity, but admittedly, we'd -- we'd be
23 contracting for firm power at some point in the future,
24 relying on US sources to gen -- to provide the capacity
25 for -- for Manitoba.

1 And we'd have to -- we'd have to sign
2 contracts to ensure the power is there when we need it.

3 MR. WHITFIELD RUSSELL: If you want a
4 firm power --

5 THE CHAIRPERSON: Now, we have some
6 inkling of the kind of contracts that Manitoba Hydro
7 has been able to sign in US for -- for selling firm
8 power into the US. So we know what the prices are.
9 They're -- they're good prices for firm dependable
10 capacity. So flip that around now. Now, we're into
11 the US, we're negotiating for firm power at a time when
12 Manitoba needs it.

13 Do you -- do you really think that we'll
14 get better prices than what Manitoba has -- you know, I
15 -- do you think that we'd get modest prices for that
16 firm dependable capacity?

17 MR. WHITFIELD RUSSELL: Yes, that's my
18 experience. And -- and like I said, we worked for the
19 Navajo Tribal Utilities in the Four (4) Corner area of
20 the US, a very big bulk power marketing hub. And the
21 demand charges that we're negotiating are literally 50
22 percent in the winter, because that's the -- that's the
23 peak in the winter for the Navajos. The price they pay
24 for their power during their peak in the winter is
25 literally half the demand charge they incur for

1 purchases during the summer. They don't need much
2 during the summer, and so it's -- it's very
3 advantageous.

4 But, yes, and then if you look at the
5 industrial rate schedules of, like, Pacificorp in the -
6 - the Warren Buffett company in Utah and the
7 surrounding states, those demand charges in the winter
8 are -- are 50, 60 percent of what they are in the -- in
9 the summer. And power in the wholesale market is sold
10 on those kind of principles and on those kind of
11 prices.

12 In the winter, when nobody is
13 particularly demanding lots of extra capacity in a
14 summer-peaking system, you -- you can negotiate much
15 better deals. And the price at which they'll sell
16 during their off-peak season is below the marginal cost
17 you would incur to build something new in Manitoba.

18 THE CHAIRPERSON: Now, you know, I hear
19 you on the winter capacity.

20 MR. WHITFIELD RUSSELL: Yeah.

21 THE CHAIRPERSON: We just finished a
22 very cold winter. And I'm -- I'm reading the material
23 that comes out of the MISO footprint indicating the
24 strains that that cold winter has placed on the -- on
25 that MISO system --

1 MR. WHITFIELD RUSSELL: Okay.

2 THE CHAIRPERSON: -- in the northern
3 part.

4 MR. WHITFIELD RUSSELL: Yeah.

5 THE CHAIRPERSON: And so here we are,
6 winter-peaking capacity, and relying on -- on the
7 availability of US capacity in the wintertime, it seems
8 to me that we're exposing ourself unduly to a potential
9 shortfall of power at the very time when we need it.

10 MR. WHITFIELD RUSSELL: And -- and I
11 just don't see that. If the transmission capacity is
12 available, your import capacity is sufficient, the
13 power can be delivered from the supplier to your
14 Manitoba border, you can survive N-1 events, then it
15 seems to me that that's not a great risk that's taken
16 on.

17 I mean, I work for many invest -- some
18 investor-owned utilities, and -- and a far greater
19 number of publicly owned co-ops or municipals. They're
20 entirely dependent upon another supplier. But because
21 they're embedded within a large integrated network and
22 they have strong interconnections to their suppliers,
23 that's not viewed as a particular risk.

24 You -- you do the -- you do your
25 reliability analysis on the deliverability of the firm

1 capacity. You check out the firmness of the capacity
2 itself, how -- how much its backed up with, in the form
3 of installed reserves and how it's operated in terms of
4 operating reserves, and that's not an unusual or non-
5 traditional risk. It's -- there's -- as I see it,
6 there's nothing unique about Manitoba's situation which
7 would make that an unwise strategy.

8 Now, one (1) more thing. The LCA Plan
9 17 scenario recommending reliance upon imports, they
10 are very clear, and I want to endorse it. But it's not
11 a standalone alternative. It has a lot of advantages
12 in deferring the need for generation in Manitoba, and
13 it may well be it's a stepping stone to a later
14 installation of Keeyask and Conawapa.

15 So, you see, what -- what adoption of an
16 import or -- or a no new gen case for a while, where
17 you rely on imports, as a transition to a time period
18 when your hydro capacity may be able to command better
19 prices in the US, when the market picks up and
20 stabilizes and gets better, that's what I see the value
21 of that No New Generation case to be.

22 So you -- you take advantage of low
23 costs that prevail for the -- for the foreseeable eight
24 (8) or ten (10) years, let's say, and go and see what
25 you can find in the way of purchases. See what kinds

1 of outlays you have to incur to import -- increase your
2 import capacity to a point where you're safe with an N-
3 1 or maybe an N-2 of types. And then go back to
4 Keeyask and Conawapa, when the prospects for that look
5 a lot better.

6 That, I think, is where the -- the LCA
7 No New Generation case brings a lot of value to the
8 table.

9 THE CHAIRPERSON: I think that's all
10 the questions that the panel has for now, so I'll turn
11 the microphone over to Ms. Menzies.

12 MS. MEGHAN MENZIES: Thank you. Thank
13 you, and CAC (Manitoba) has no questions for this
14 witness. Thank you.

15 THE CHAIRPERSON: Thank you, Ms.
16 Menzies.

17 Mr. Gange, please?

18 MR. WILLIAM GANGE: Mr. Chair, I have
19 no questions for the witness panel.

20 THE CHAIRPERSON: Thank you, Mr. Gange.
21 And, Me. Monnin, s'il vous plait?

22 MR. CHRISTIAN MONNIN: Merci, M.
23 President. We have no questions either.

24 THE CHAIRPERSON: So, Ms. Ramage, back
25 to you.

1 CROSS-EXAMINATION BY MS. PATTI RAMAGE:

2 MS. PATTI RAMAGE: Hang on. Yes, I do
3 have a few questions. Mr. Russell, you'd agree that
4 the Board should be concerned with the financial impact
5 of the Preferred Development Plan, that goes without
6 saying, correct?

7 MR. WHITFIELD RUSSELL: Yes.

8 MS. PATTI RAMAGE: And the proper means
9 of examining the financial impact of a -- of the
10 Preferred Development Plan is a full scale financial
11 analysis, correct?

12 MR. WHITFIELD RUSSELL: Presumably,
13 yes.

14 MS. PATTI RAMAGE: And that would be
15 revenue requirement impacts, and rate -- rate impacts?

16 MR. WHITFIELD RUSSELL: Yes.

17 MS. PATTI RAMAGE: And in terms of
18 economic evaluation, this hearing has heard much about
19 it being standard in practice in -- or it's standard
20 and good economic evaluation practice to exclude sunk
21 costs when deciding whether a project should proceed or
22 not.

23 Do you -- do you disagree that this is
24 standard practice based on sound economic theory?

25 MR. WHITFIELD RUSSELL: Can -- can I

1 have the premise for your question?

2 MS. PATTI RAMAGE: That --

3 MR. WHITFIELD RUSSELL: That -- you say
4 the Board has already found that it's -- it's proper to
5 ignore sunk costs?

6 MS. PATTI RAMAGE: No, no. I -- I said
7 that the hearing has heard much evidence that it's
8 standard and good economic evaluation practice to
9 exclude sunk costs when deciding whether a project
10 should proceed or not. And I'm wondering if you
11 disagree that this is standard practice, or that it --
12 disagree that that's sound economic theory.

13 MR. WHITFIELD RUSSELL: Oh, no, I
14 disagree. I mean, we -- we've been down this road in
15 the United States many times with nuclear plant over --
16 cost overruns. And what the story goes oftentimes is
17 this:

18 You get a cost overrun. They're
19 challenged by the regulators. And they say, Oh, well,
20 just ignore those sunk costs. Completing this nuclear
21 plant is going to be cheaper than looking at all the
22 other alternatives on the table. So they go ahead it
23 again and there's further cost overruns. And again,
24 the scenario repeats itself.

25 I think racking up large billions of

1 dollars of sunk costs is something that ought to be
2 looked at and -- and develop a strategy for catching
3 them early and seeing whether they can be avoided. And
4 so I just don't think it's -- it's appropriate in any
5 way to ignore sunk costs in a going-forward under all
6 circumstances. We ought to -- we ought to be trying to
7 avoid the costs of -- of large sunk costs that don't
8 contribute to the overall lowest cost plan.

9 MS. PATTI RAMAGE: You said you don't
10 think, but in -- in economic theory is it not standard
11 practice to -- to ignore sunk cost?

12 MR. WHITFIELD RUSSELL: You mean -- you
13 mean...

14 MS. PATTI RAMAGE: Yeah, when you're
15 calculating an IRR or an NPV, you don't include the
16 sunk costs, correct?

17 MR. WHITFIELD RUSSELL: Well, that --
18 that's what you've done here, but we're talking about a
19 regulatory situation where we're concerned about
20 excessive rates. The customer's going to pay for those
21 sunk costs. If there's a way to avoid those sunk
22 costs, yes, I think we should look at a methodology to
23 lessen them and avoid them insofar as possible, so that
24 we don't have a large amount of sunk costs for
25 attributes of a plan which don't contribute to its --

1 to its cost effectiveness and efficiency.

2 MS. PATTI RAMAGE: But you acknowledge
3 the money's already been spent and that it has to be
4 paid somehow, correct?

5 MR. WHITFIELD RUSSELL: Oh, I'm not
6 disputing the facts that the -- the money's been spent.
7 The question is what could we have done to avoid it.

8 I think if you had the No New Generation
9 case on the table at the time Bipole III was approved,
10 and Bipole III was subjected to an NFAT, and -- and La
11 Capra came in with a repo -- with a -- with a -- some
12 version of Plan 17, I think we'd be in a very different
13 world today.

14 MS. PATTI RAMAGE: Sir, do you have an
15 example of a proceeding like this where sunk costs are
16 ignored?

17 MR. WHITFIELD RUSSELL: I -- I don't,
18 no. But I do know that sunk costs and cost overruns
19 have been a subject of many disallowances by investor
20 owned utilities that built excessively costly nuclear
21 plants. So that's -- that's the concern we're trying
22 to address.

23 MS. PATTI RAMAGE: So that disallowance
24 though is in the rate-setting -- is in a rate-setting
25 mode, not whether to move forward or not?

1 MR. WHITFIELD RUSSELL: Yes, but the
2 regulatory authority typically had jurisdiction over
3 the planning and irriga -- and the integrated resource
4 plan which lead up to it being placed in rate-based --
5 or being requested for rate-based treatment.

6 So the -- the thing -- the thing which
7 distinguishes matters here in Manitoba is that this
8 Board has jurisdiction over rates, but it seems to me
9 it doesn't have any cost-effective way to control the
10 buildup of the sunk costs which go into those rates.
11 And disallowing the inclusion of sunk costs in rates,
12 you know, with -- with a province-owned utility system,
13 I -- I just -- I think all that does is undermine the
14 indicators of financial health.

15 So it's just a no win situation that I
16 think the Board finds itself in.

17 MS. PATTI RAMAGE: Okay. Thank you.
18 And it occurs to me, Mr. Chairman, I jumped in, I
19 actually have some documents to distribute and a stick.
20 So if I could just have a moment to pass those out?

21 THE CHAIRPERSON: Go ahead, please.

22

23 (BRIEF PAUSE)

24

25 MS. PATTI RAMAGE: And just a couple of

1 housekeeping matters as we go. I had also passed out
2 the response to GAC's Pre-ask which we had identified
3 as Manitoba Hydro Exhibit 199, and we should probably
4 get that on the record so that we can call this short,
5 little book of documents Manitoba Hydro exhibit 200.

6

7 --- EXHIBIT NO. MH-199: GAC Pre-asks of Manitoba
8 Hydro

9

10 --- EXHIBIT NO. MH-200: Manitoba Hydro Book of
11 Documents - MMF/WRA

12

13 CONTINUED BY MS. PATTI RAMAGE:

14 MS. PATTI RAMAGE: And I'm not going to
15 the book of documents right away, but I was wondering
16 if Diana could bring up page 11 of the WRA presentation
17 this morning.

18

19 (BRIEF PAUSE)

20

21 MS. PATTI RAMAGE: And on page 11 of
22 your presentation, in the second bullet, you refer to
23 the market for firm exported -- exported power.

24 Do you see that?

25 MR. WHITFIELD RUSSELL: Yes.

1 MS. PATTI RAMAGE: And are you...

2

3 (BRIEF PAUSE)

4

5 MR. WHITFIELD RUSSELL: It's back on.

6 I said, "yes."

7

8 MS. PATTI RAMAGE: When you refer to
9 market are you referring to Manitoba Hydro's market in
10 this bullet?

11 MR. WHITFIELD RUSSELL: I'm referring
12 to the market for exported power in the US.

13 MS. PATTI RAMAGE: So the -- the market
14 that Manitoba Hydro can export its power to?

15 MR. WHITFIELD RUSSELL: Yes.

16 MS. PATTI RAMAGE: You're aware that
17 Manitoba Hydro has signed contracts with Minnesota
18 Power, WPS, and NSP?

19 MR. WHITFIELD RUSSELL: I understand
20 they're contingent on completion of additional -- well,
21 some of the contracts are not con -- conditional. Yes,
22 they have signed contracts.

23 MS. PATTI RAMAGE: And these contracts
24 are -- are for energy from new hydraulic generation?

25 MR. WHITFIELD RUSSELL: Yes.

MS. PATTI RAMAGE: And would you agree

1 then that these customers are not interested in power
2 from Manitoba Hydro thermal resources? They've
3 contracted for hydro generated power?

4 MR. WHITFIELD RUSSELL: I agree, they
5 have, yes.

6 MS. PATTI RAMAGE: So on what basis
7 would you conclude that the price Manitoba Hydro's
8 customers are willing to pay -- pay for power is based
9 on the cost of thermal resources?

10 MR. WHITFIELD RUSSELL: Oh, that would
11 be their alternative if they didn't have access to
12 Manitoba Hydro. Now, the -- let's -- let's just refine
13 that a little bit. To the extent this satisfies a
14 renewable portfolio standard requirement, and -- and --
15 then -- then I think what -- what you're comparing is a
16 slightly different issue; that is, if Manitoba Hydro
17 power in the hands of the purchaser qualifies it for
18 satisfaction of its renewable portfolio standard. And
19 if it would otherwise have to go to wind generation in
20 combination with thermal resources, we wouldn't be --
21 we wouldn't be confined to this narrow set of
22 alternatives that I've laid out in this -- in this
23 bullet.

24 MS. PATTI RAMAGE: If we could turn to
25 page 14 of the presentation now. On page 14 at the

1 third line of the -- on the third line there, you refer
2 to customer resistance to buy power from Manitoba
3 Hydro.

4 Do you see that? Or buyer resistance.

5 MR. WHITFIELD RUSSELL: Yes. If -- if
6 the cost of the Manitoba Hydro is going to be higher
7 than their alternative portfolio which would satisfy
8 their needs, yes, there would be resistance.

9 MS. PATTI RAMAGE: Are you aware of Mr.
10 Cormie's testimony in this hearing that Manitoba Hydro
11 has effectively sold out all of the new hydraulic
12 energy from Keeyask?

13 MR. WHITFIELD RUSSELL: I was not.

14 MS. PATTI RAMAGE: Okay. Are you aware
15 of Mr. Cormie's testimony that Manitoba Hydro's 308-
16 megawatt agreement with WPS represents roughly 30
17 percent of the output of Conawapa?

18 MR. WHITFIELD RUSSELL: I wouldn't
19 dispute it, but I'm -- my -- my issue is at what price
20 as compared to the cost.

21 MS. PATTI RAMAGE: And you haven't seen
22 that price, correct?

23 MR. WHITFIELD RUSSELL: No. That's all
24 CSI. I wasn't allowed to see the contract prices.

25 MS. PATTI RAMAGE: Right. You're aware

1 that Manitoba Hydro has signed MOUs with SaskPower and
2 Great River Energy for a total --

3 MR. WHITFIELD RUSSELL: I was generally
4 aware, yes.

5 MS. PATTI RAMAGE: And that's 1,100
6 megawatts of power from Conawapa?

7 MR. WHITFIELD RUSSELL: I -- I'll
8 accept that.

9 MS. PATTI RAMAGE: Okay. Would you
10 accept then that these agreements and MOUs add up to
11 1,408 megawatts of power which, when you add the 10
12 percent required to get that -- to move that power, is
13 1,550 megawatts, or greater than the capacity of
14 Conawapa?

15 MR. WHITFIELD RUSSELL: I'm -- I'm not
16 disputing that. The question is at what price? The
17 incremental price versus the incremental cost. And I
18 haven't seen that.

19 MS. PATTI RAMAGE: If we could turn to
20 page 40 of the presentation.

21 Now, at page 40, you suggest that there
22 are entities with surpluses willing to sell energy to
23 Manitoba Hydro.

24 Do I have that correct?

25 MR. WHITFIELD RUSSELL: Yes. I would

1 expect so, yes.

2 MS. PATTI RAMAGE: And are any of these
3 entities the ones that Manitoba Hydro already has sales
4 agreements with?

5 MR. WHITFIELD RUSSELL: Not
6 necessarily. In other words, further south where
7 there's less exposure and more surpluses, the -- the --
8 I would expect there to be more firm surpluses in -- in
9 the winter for -- for use by Manitoba Hydro. The
10 question is whether you can transmit it, the upgrades
11 can be justified, and -- and can be accomplished.

12 In other words, all the intervening
13 parties with which you have bilateral arrangements have
14 an obligation to transmit power to other buyers and
15 sellers.

16 MS. PATTI RAMAGE: So when you're
17 saying further south, can you identify any -- any party
18 in particular that has this surplus power --

19 MR. WHITFIELD RUSSELL: No.

20 MS. PATTI RAMAGE: -- or are we just --
21 it all conjecture?

22 MR. WHITFIELD RUSSELL: I -- I don't --
23 it's not conjecture. I know such transactions are
24 available, and in the ordinary course of my -- of my
25 consulting business over the past thirty (30) some

1 years, that's -- that's been -- that's been the -- the
2 way it's done. That's been the expectation, and it's
3 been proven out in practice.

4 MS. PATTI RAMAGE: Now, I note in slide
5 40 you refer to PJM and SPP.

6 MR. WHITFIELD RUSSELL: Yes.

7 MS. PATTI RAMAGE: You're -- you're
8 aware of course that there's no transmission path
9 between PJM and SPP to -- to Manitoba Hydro?

10 MR. WHITFIELD RUSSELL: Of course there
11 is.

12 MS. PATTI RAMAGE: There -- firm
13 transmission?

14 MR. WHITFIELD RUSSELL: Well, yeah,
15 from -- from Chicago it would be a backhaul, I would
16 think. Sure, why not. The prevailing flow is from
17 west to east during the summer peak. Why -- why
18 wouldn't -- why wouldn't Commonwealth Edison in
19 Chicago, or someone in eastern Wisconsin want to sell
20 power to you in the winter?

21 MS. PATTI RAMAGE: The testimony that
22 we've heard to date is that there is no firm
23 transmission from further -- further east. So are you
24 able to confirm -- confirm absolutely that that exists,
25 or are you just guessing that that might be there?

1 MR. WHITFIELD RUSSELL: I'm -- I'm
2 making a very different point. The absence of existing
3 firm transmission capability should not be a constraint
4 in a long-range arrangement. Each of those
5 transmission owners between you and a potential
6 supplier has an obligation under their Open Access
7 Transmission capaci -- Tariffs to build transmission
8 upgrades in first-come first-serve basis as requested.

9 If you identified a low cost supplier,
10 which was able to sell you power at -- at a
11 commensurately reasonable rate in the winter and there
12 was some constraint between your potential supplier and
13 the Manitoba border with the US, you can file a request
14 under the OATT. In the case of MISO, MISO would
15 administer the OATT. And they -- if you long -- as
16 long as your supplier met the milestones and paid the
17 fees for the studies, and they would get their firm
18 transmission upgrades and be able to deliver.

19 Very often, however, the situation in --
20 in a -- the US is that if you're going to do a
21 backhaul, say from Chicago, I expect the prevailing
22 flow, in my experience working in -- in Wisconsin, the
23 prevailing flow on the transmission systems is towards
24 Chicago. If Chicago -- Commonwealth Edison in Chicago,
25 or Exelon, wanted to generate and sell power for sale

1 in Manitoba, there would be a backhaul. They would be
2 unloading facilities when they cranked up generation.

3 So I have two (2) expectations: 1) that
4 a supplier from a backhaul would be feasible, and
5 second, that if it's not, you can exercise -- your
6 supplier can exercise his rights under the OATT. O-A-
7 T-T.

8 MS. PATTI RAMAGE: Under the Open
9 Access Transmission Tariff though, you'd be paying
10 point-to-point rates through various trans --
11 jurisdictions, correct?

12 MR. WHITFIELD RUSSELL: It -- it
13 depends. If you want to -- if you want to establish
14 yourself as a network customer you could get network
15 service.

16 MS. PATTI RAMAGE: Have you studied the
17 costs of either network service or point-to-point to do
18 that?

19 MR. WHITFIELD RUSSELL: I have not.
20 That's the whole purpose of making a request under the
21 OATT, so the -- the intervening utilities, or the
22 transmission provider, is obligated to give you those
23 prices on a -- on a first-come first-serve basis.

24 THE CHAIRPERSON: Mr. Russell, could
25 you move you -- could you move your microphone this way

1 a little bit? Yeah, a little bit more.

2 MR. WHITFIELD RUSSELL: Yeah, I
3 apologize.

4 THE CHAIRPERSON: I think just -- we're
5 getting too much echo. Thank you.

6 MS. GENEVA LOOKER: I just wanted to
7 add also that between PJM and MISO there is no double
8 transmission charge, that they have removed the
9 pancaked rates and you only pay one (1) transmission
10 charge.

11

12 (BRIEF PAUSE)

13

14 CONTINUED BY MS. PATTI RAMAGE:

15 MS. PATTI RAMAGE: If we could turn to
16 page 41 of the presentation. Here you're referring to
17 FERC Order 1,000?

18 MR. WHITFIELD RUSSELL: Yes.

19 MS. PATTI RAMAGE: And it's intent to
20 incent construction of new transmission in the US?

21 MR. WHITFIELD RUSSELL: Yes.

22 MS. PATTI RAMAGE: Are you also aware
23 of state legislation in Minnesota that provides
24 incumbent utilities with the right of first refusal
25 when transmission is built?

1 MR. WHITFIELD RUSSELL: I would be
2 surprised if that would withstand challenge, but I
3 don't deny that it exists. We have the national --
4 what is it, NIETC -- National Interest Electric
5 Transmission Corridor bill, which is addressed to those
6 very situations where you've had repeated instances in
7 the United States where needed interstate transmission
8 is -- is frustrated and stopped by a refusal of a state
9 commission to approve facilities needed by an out-of-
10 state buyer or seller.

11 And so this -- this federal legislation
12 in the US was put in place to -- to resolve just that
13 situation. I think -- I think it would be a problem in
14 the short-term but not in the long haul.

15 MS. PATTI RAMAGE: Would you be
16 suggesting to this panel that it's a good ideal to drop
17 Manitoba Hydro in the middle of a state versus federal
18 battle in the US?

19 MR. WHITFIELD RUSSELL: No. I'm saying
20 that if the economics are sufficiently robust, your
21 potential seller would be delighted to take on such --
22 such a trans -- such a challenge. But in the meantime,
23 they have their rights under the OATT, So I'm not sure
24 how the -- how the state of Minnesota could under the
25 federal preemption principles that govern FERC's

1 jurisdiction over transmission.

2 I mean, FERC has exclusive jurisdiction
3 over transmission. If -- if FERC, in administering or
4 enforcing its OATTs of it's jurisdictional utilities,
5 tells -- tells you that you are entitled to get
6 transmission from a supplier, then the battle becomes
7 between FERC and the state of Minnesota. I don't think
8 that's going to withstand a challenge.

9 MS. PATTI RAMAGE: Page 41, we're still
10 there. In the last bullet you suggest that Manitoba
11 Hydro may be able to buy firm power on a seasonal
12 basis.

13 Do I have that correct?

14 MR. WHITFIELD RUSSELL: During the off-
15 peak season, yes.

16 MS. PATTI RAMAGE: Are you familiar
17 with MISO resource -- the MISO Resource Adequacy
18 Construct?

19 MR. WHITFIELD RUSSELL: Not -- I'm not
20 -- I'm aware that such a thing exists. I'm -- I'm not
21 familiar with the details.

22 MS. PATTI RAMAGE: Well, sir, would you
23 accept, subject to check, that there exists a MISO
24 requirement that capacity resources be available year -
25 - year-round?

1 MR. WHITFIELD RUSSELL: For what
2 purpose?

3 MS. PATTI RAMAGE: Well, MISO requires
4 the capacity be available year-round. And -- and that
5 being the case, how -- I'm asking how Manitoba Hydro
6 could contract for seasonal capacity?

7 MR. WHITFIELD RUSSELL: I just can't
8 answer until I see the -- the -- see what the policy
9 is. It doesn't make sense to me.

10 You couldn't pull forced -- you couldn't
11 pull a maintenance outage if that was the requirement.
12 You had to be available year-round. I -- I'm not sure
13 I understand your point.

14 MS. JESSICA SAUNDERS: Yes, Ms. Ramage,
15 if I could just intervene here. Is there anything in
16 your book of documents that you could refer Mr. Russell
17 to?

18 MS. PATTI RAMAGE: Not -- no, it's not
19 in the book of documents.

20 MS. JESSICA SAUNDERS: Okay.

21 MS. PATTI RAMAGE: But I'm asking Mr.
22 Russell if he understands the MISO -- but we can back
23 up a step.

24 Does he have knowledge of MISO's
25 Resource Adequ -- Adequacy Construct when making these

1 recommendations? Is he confident that his
2 recommendations meet with that construct?

3 MS. JESSICA SAUNDERS: And I just want
4 to confirm that Mr. Russell has a full understanding
5 based on what you've explained of the construct in
6 order to respond.

7 MS. PATTI RAMAGE: I would suggest it
8 should be his understanding, not mine; but if he -- if
9 he's able to confirm that he understands that
10 construct.

11 MR. WHITFIELD RUSSELL: As I said, I'm
12 not familiar with the details of that, so I can't
13 really help you there.

14

15 CONTINUED BY MS. PATTI RAMAGE:

16 MS. PATTI RAMAGE: This morning during
17 -- or I guess more this afternoon during your testimony
18 you were discussing the import-only line. And I'll say
19 my understanding of import-only line was no new long-
20 term firm contracts at the front-end to justify the
21 line or -- or no counterparty purchasing firm power
22 from Manitoba Hydro to justify that line.

23 Is that consistent with your
24 understanding?

25 MR. WHITFIELD RUSSELL: May I have the

1 question again, please.

2 MS. PATTI RAMAGE: I'm asking: Is no
3 new long-term firm contracts at the front-end of the
4 import-only to justify the line? Is that what you
5 understand import-only line to mean?

6 MR. WHITFIELD RUSSELL: I don't know
7 what you mean by "import only line." Is that what
8 you're saying? You want me to say --

9 MS. PATTI RAMAGE: I'm asking you -- my
10 understanding of what import-only line is no new long-
11 term firm contracts to justify the line. And is that
12 consistent with yours, or do you -- your understanding,
13 or do you apply a different meaning?

14 MR. WHITFIELD RUSSELL: I just -- I
15 just don't have an understanding of what that term
16 means. If that's what you mean by that term, that --
17 that's...

18 MS. PATTI RAMAGE: Well, in your
19 evidence you -- you critiqued this -- the import-only
20 line as being, as I recall, something where you didn't
21 believe that a line would ever import only. Which I'm
22 saying is not my understanding of what La Capra meant
23 when it called it an import-only line. What they meant
24 was -- my understanding was that they meant that there
25 would be no contract.

1 MR. WHITFIELD RUSSELL: All right. Let
2 me -- let me clarify. And I'm not -- I'm not trying to
3 be argumentative here. This import-only term was
4 invoked in your rebuttal testimony with respect to a
5 new AC interconnection to the US in the CEC proceeding
6 as an alternative to Bipole III. You invoked it. I
7 didn't -- it didn't have any meaning to me in that
8 context. And -- and that's what I was responding to in
9 my testimony.

10 MS. PATTI RAMAGE: So you weren't
11 responding to the La Capra import-only line --

12 MR. WHITFIELD RUSSELL: No, no.

13 MS. PATTI RAMAGE: -- in that scenario?

14 MR. WHITFIELD RUSSELL: I was
15 responding to your rebuttal.

16 MS. PATTI RAMAGE: Okay. If I could,
17 in the -- the book of documents that we've brought up -
18 - on the first page of that book of documents. I
19 wanted to explore with you the commentary regarding
20 LCA's Plan 17.

21 And here you've said Plan 17 looks
22 promising, correct?

23 MR. WHITFIELD RUSSELL: Yes.

24 MS. PATTI RAMAGE: And if we turn to
25 page 7 --

1 MR. WHITFIELD RUSSELL: I didn't use
2 those words specifically, but I think -- I think that's
3 -- that's a fair characterization.

4 MS. PATTI RAMAGE: Oh, I think the
5 heading actually says, "LCA's Plan 17 looks promising."

6 MR. WHITFIELD RUSSELL: Oh, yes. Okay.
7 Yeah. Okay.

8 MS. PATTI RAMAGE: I tried not to read.
9 I'm sorry, panel. I was trying not to read a quote,
10 but see what happens when I try to paraphrase.

11 MR. WHITFIELD RUSSELL: Good catch.
12 Thank you.

13 MS. PATTI RAMAGE: At page 17 --

14 MR. WHITFIELD RUSSELL: Yes.

15 MS. PATTI RAMAGE: -- and now I'm going
16 to read -- the third bullet. And this is slide 33 from
17 La Capra's presentation. And they said:

18 "While a hypothetical plan, the
19 results point to potential for added
20 elements to other plans such as
21 increased import capability and DSM."

22 Do I take it from your evidence that
23 both you and La Capra agree Plan 17 is a hypothetical
24 plan?

25 MR. WHITFIELD RUSSELL: Yes, they were

1 wary of recommending its implementation and adoption
2 without sub -- substantial further study. They also,
3 as I read their testimony, wanted to -- it to be
4 considered in connection with other plans -- its
5 elements in connection with other plans, especially for
6 its cost effective attributes.

7 MS. PATTI RAMAGE: And you're aware
8 that Manitoba Hydro has filed in its Exhibit 104 an
9 analysis of additional levels of DSM?

10 Is that -- are -- were you aware of that
11 analysis?

12 MR. WHITFIELD RUSSELL: I -- I had -- I
13 had read that that was the case, the Levels 1, 2, and 3
14 DSM, yes.

15 MS. PATTI RAMAGE: And if we could go
16 to page 4 in this -- I hate to call it a book of
17 documents, this pamphlet of documents. This would
18 Manitoba Hydro's Exhibit 171, and it presents the
19 results of some of that analysis. And if we look at --
20 of Exhibit 171 and look at the Level 2 DSM which is the
21 -- the large box in the middle of the page --

22 MR. WHITFIELD RUSSELL: I see it.

23 MS. PATTI RAMAGE: -- on the left-hand
24 side.

25 MR. WHITFIELD RUSSELL: Yes.

1 MS. PATTI RAMAGE: We see that three
2 (3) of the plans shown in that exhibit, Plans 5, 6, and
3 14 include the 750 megawatt interconnection.

4 Do you see that?

5 MR. WHITFIELD RUSSELL: I see 5, 6, and
6 14, yes.

7 MS. PATTI RAMAGE: Now, if I could have
8 you turn to page 5 in the documents. Here we have tran
9 -- a section of the transcript. And we have Mr. Peaco
10 of La Capra responding to Board member Bel's question
11 regarding the 750 megawatt interconnection and the
12 thought of raising the import floor. And if I -- I
13 could read for the record, Mr. Bel asks:

14 "So it's -- we have the 750 megawatt
15 interconnection, and we have a raise
16 in the import floor. So we doubled
17 the amount of the imports that are
18 allowed?"

19 And Mr. Peaco answered, "Yes."

20 Do you see that?

21 MR. WHITFIELD RUSSELL: On page which --

22 MS. PATTI RAMAGE: Sorry, it's 5,727,
23 the bottom left-hand corner --

24 MR. WHITFIELD RUSSELL: I was -- I was
25 looking at the wrong place. I apologize. Excuse me.

1 MS. PATTI RAMAGE: Yeah, sorry.

2 Beginning at lines 20 through 24. I'll give you a
3 minute to read that.

4 MR. WHITFIELD RUSSELL: Thank you.

5

6 (BRIEF PAUSE)

7

8 MR. WHITFIELD RUSSELL: I see it, yes.

9 MS. PATTI RAMAGE: Yeah. And I'm then
10 going to have you turn the page to transcript page
11 5,732. And this is the continuation of that
12 discussion. And here, I'll -- I'll read it into the
13 record. And I'm looking at page 5,732, lines 5 through
14 15, which read -- Mr. Peaco says:

15 "There's -- there's a determination
16 as it -- you know, how much -- how
17 much are we going to rely on imports
18 is really a policy determination,
19 because there's -- there's a policy
20 that Manitoba Hydro uses in its
21 planning and it -- and it could be
22 different. And we've talked about
23 the issue separately in our reports.
24 And -- and this -- this case was an -
25 - an -- was an opportunity for us to

1 test, you know, does it make any
2 difference if we relax that? And --
3 and so you see the combined effect of
4 both those things in that effect --
5 or, sorry, in that case."

6 And when I'm reading that, would you
7 agree that the combined effect that is being referred
8 to is relaxing the import policy and the effect of the
9 import line?

10 MR. WHITFIELD RUSSELL: I so took it,
11 yes.

12 MS. PATTI RAMAGE: Okay. So if we
13 could now turn to page 8 in this document, we're going
14 to see -- we have here Manitoba Hydro Exhibit 104-14.
15 And here, Manitoba Hydro has provided a comparison of
16 La Capra's hypothetical Plan 17 to Plan 14.

17 Have you -- are you familiar with this
18 exhibit?

19 MR. WHITFIELD RUSSELL: I -- I have
20 seen this exhibit before, yes.

21 MS. PATTI RAMAGE: So you see the table
22 on the left-hand side. There's a comparison of Plan 1,
23 being the All Gas Plan, Plan 17, together with three
24 (3) different variations of Plan 14.

25 Do you see that on the left?

1 MR. WHITFIELD RUSSELL: I do, yes.

2 MS. PATTI RAMAGE: Okay. Plan 17 is
3 labelled 'LCA No New Generation' and is described as
4 LCA load reduction 750 megawatt, relaxed import
5 criteria, extended diversities.

6 Do you see that?

7 MR. WHITFIELD RUSSELL: I do.

8 MS. PATTI RAMAGE: And the associated
9 incremental NPV for Plan 17 is \$1,421 million.

10 Do you see that?

11 MR. WHITFIELD RUSSELL: I -- I thought
12 it was 1 billion four (4), but --

13 MS. PATTI RAMAGE: Oh, 1.421 billion
14 would be the other way to say that.

15 MR. WHITFIELD RUSSELL: I thought it
16 was 1.4 -- 4 billion, yes.

17 MS. PATTI RAMAGE: Okay.

18 MR. WHITFIELD RUSSELL: Yeah.

19 MS. PATTI RAMAGE: Now, the first Plan
20 14, which is the Keeyask19/Conawapa25/750 --

21 MR. WHITFIELD RUSSELL: Yes.

22 MS. PATTI RAMAGE: -- you see that the
23 incremental NPV for that 1.696 billion?

24 MR. WHITFIELD RUSSELL: I do.

25 MS. PATTI RAMAGE: Okay. Now, Plan 14

1 is then repeated and labelled as

2 Keeyask19/Conawapa30/750 megawatts.

3 MR. WHITFIELD RUSSELL: Yes.

4 MS. PATTI RAMAGE: And it's described
5 as LCA load reduction, MP sale, WPS sale, and
6 investment.

7 Do you see that?

8 MR. WHITFIELD RUSSELL: Yes.

9 MS. PATTI RAMAGE: And GRE diversity
10 extension. I forgot to -- to -- that's also included
11 in that plan, correct?

12 MR. WHITFIELD RUSSELL: I so took it.

13 MS. PATTI RAMAGE: And the associated
14 incremental NPV is \$2.607 billion for that plan,
15 correct?

16 MR. WHITFIELD RUSSELL: I understand,
17 yes.

18 MS. PATTI RAMAGE: So the comparison
19 between the two (2) plans labelled as Plan 14 provides
20 a direct comparison of the impact of the load reduction
21 and the diversity extension between those two (2)
22 plans, correct? That's the difference.

23 MR. WHITFIELD RUSSELL: I -- I note
24 that the All Gas Plan it's being compared to is with no
25 load reduction. Is that right?

1 MS. PATTI RAMAGE: That's correct.

2 MR. WHITFIELD RUSSELL: I'm -- I'm
3 puzzled about the -- the meaning of this without also
4 doing the load reduction on the no -- All Gas Plan. Is
5 there some reason that wasn't done?

6 MS. PATTI RAMAGE: For our purposes,
7 what we're doing is comparing the LCA No New Generation
8 Plan to the Plan 14. So what we're trying to do here
9 is -- is demonstrate the difference between the load
10 reduction -- no load reduction and the load reduction.

11 MR. WHITFIELD RUSSELL: I understand
12 that, but if we're comparing LCA with a load reduction,
13 Plan 14 with a load reduction, why wouldn't we also do
14 the All Gas load reduction? I -- I'm not sure.

15 MS. PATTI RAMAGE: Yeah, yeah. That --
16 that may be done in another analysis, but for the
17 purposes of -- of this is to compare these -- the plan
18 -- the 14 with no load and with load reduction. So if
19 you could just follow me on that. You'd agree that the
20 difference between the 2.6 billion and the one point
21 six (1.6) is roughly \$900 million.

22 Is that correct?

23 MR. WHITFIELD RUSSELL: I -- I agree,
24 but I question the significance. Yes.

25 MS. PATTI RAMAGE: Well, would you

1 agree that the value of the load reduction, if we're
2 talking to Plan 17, where it has LCA load reduction,
3 that would also have the same LCA load reduction as the
4 second Plan 14?

5 If we're talking LCA load reduction in
6 that Plan 17 and the second Plan 14 also has LCA load
7 reduction, that would be the same load reduction,
8 correct?

9 MR. WHITFIELD RUSSELL: I think we'd
10 want to see the All Gas case with load reduction to
11 reach any significant conclusion here.

12 MS. PATTI RAMAGE: You'd agree, though,
13 that Plan 17 load reduction -- with load reduction and
14 Plan 14 with load reduction would be dir -- directly
15 comparable?

16 MR. WHITFIELD RUSSELL: Yes, yes. But
17 you must understand that my opinion is the NCA -- the
18 LCA No New Generation case would not need Bipole III,
19 but case 14 would. And if you took 5 -- 3.3 billion in
20 avoided Bipole III costs and put them on top of case
21 17, it would be substantially higher than case 14 with
22 load reduction.

23 MS. PATTI RAMAGE: But, sir, Bipole III
24 is in every single one (1) of these. We reviewed that
25 this morning.

1 MR. WHITFIELD RUSSELL: I know that.

2 That's -- that's the point of my testimony. It
3 shouldn't be.

4 MS. PATTI RAMAGE: But these numbers,
5 it is.

6 MR. WHITFIELD RUSSELL: That's right.

7 MS. PATTI RAMAGE: That's right. And
8 the difference between those two (2) numbers is 900
9 million, correct?

10 MR. WHITFIELD RUSSELL: Oh, yes. Yeah,
11 I -- I -- yes, I don't dispute that. Well, six ninety-
12 six (696), it's a little less. It's --

13 MS. PATTI RAMAGE: I think it's nine
14 eleven (911) to be exact. And that --

15 MR. WHITFIELD RUSSELL: Six-nine-six
16 (696), yes. Okay. Yeah.

17 MS. PATTI RAMAGE: And that same nine
18 hundred and eleven (911) on account of load reduction
19 that's in 14 would be the same nine hundred and eleven
20 (911) that's on account of load reduction in Plan 17.

21 That -- nine hundred and eleven (911)
22 would make up -- or of that fourteen (14) -- \$1.421
23 billion, 911 million is on account of load reduction,
24 correct?

25 MR. WHITFIELD RUSSELL: I see the

1 arithmetic. I don't see the significance of it without
2 doing a load reduction on the All Gas case.

3 MS. PATTI RAMAGE: Sir, I'm -- I'm
4 somewhat limited in terms of how I can help you,
5 because this is LCA's calcula -- or this is -- they
6 started this -- this plan. So I -- I have to deal with
7 what I have here. And -- and I'm simply trying to
8 confirm that of the \$1.421 billion, \$911 million of it
9 is on account of a load reduction.

10 That's what this -- this exhibit tells
11 us.

12 MR. WHITFIELD RUSSELL: May I have the
13 question again? I didn't follow it.

14 MS. PATTI RAMAGE: I'm asking you whe -
15 - to confirm that if -- if the load reduction is \$911
16 million, as between -- when you compare a plan with the
17 -- with no load reduction and a plan with load
18 reduction, and that's the comparison of the two (2)
19 Plan 14s, we -- we've confirmed that \$911 million is on
20 account of the load reduction, correct?

21 MR. WHITFIELD RUSSELL: Yes, but the
22 significance of it without redoing the All Gas case
23 with load reduction is lost on me, so.

24 MS. PATTI RAMAGE: It -- it's lost on
25 me why the All Gas case is -- why you need that load

1 reduction, because we're determining that amount by
2 comparing the two (2) 14s. We have a consistent figure
3 in All Gas, and then we have the two (2) Plan 14s: one
4 (1) with, one (1) without. And we -- we know that the
5 difference is \$911 million. I think we've agreed on
6 that number.

7 And what I'm -- I'm trying to understand
8 -- or trying to get you to is that same nine hundred
9 and eleven (911), that's the amount of load reduction,
10 that's the value of the load reduction portion of this
11 NPV?

12 MS. GENEVA LOOKER: I would like to add
13 that where we have a problem with this comparison that
14 you're trying to make is that we believe that there
15 should be a comparable run of case 17 with no load
16 reduction. You're trying to make us compare these two
17 (2) case 14s to a case 17 that doesn't have a
18 comparable run.

19 We don't know what all of the elements
20 are and how they combine together in case 17. And --
21 and this is why we are reluctant to agree with your
22 question here.

23

24 (BRIEF PAUSE)

25

1 MS. PATTI RAMAGE: Are you suggesting
2 then that you've recommended this alternative without
3 understanding the difference between these?

4

5 (BRIEF PAUSE)

6

7 MS. GENEVA LOOKER: No, as we've
8 stated, we -- and I think everyone has felt that they
9 were all amazed at the difference and the positive
10 benefits that arose out of these elements. And it
11 would have been nice to have been able to explore more
12 and had more runs done with variations to them.

13 And the problem is here you're showing -
14 - you're trying to make a comparison, and without more
15 information we don't feel that we can agree with that
16 comparison.

17

18 (BRIEF PAUSE)

19

20 MS. PATTI RAMAGE: You'd agree though
21 that it certainly -- this suggests that a lot of the
22 benefit is -- as between the -- a lot of the benefit of
23 these plans is as a result of the load reduction?

24 MS. GENEVA LOOKER: Yes.

25 MS. PATTI RAMAGE: Okay. And do you

1 adopt that, Mr. --

2 MR. WHITFIELD RUSSELL: Yes.

3 MS. PATTI RAMAGE: -- Russell?

4 MR. WHITFIELD RUSSELL: Yes.

5 MS. PATTI RAMAGE: Thank you.

6 MR. WHITFIELD RUSSELL: I -- I
7 volunteered to jump in if I had to. I didn't have to.

8

9 (BRIEF PAUSE)

10

11 MS. PATTI RAMAGE: Mr. Russell, you
12 spoke about your clients who count on external
13 suppliers to help them meet their peak load.

14 MR. WHITFIELD RUSSELL: Yes.

15 MS. PATTI RAMAGE: Do those customers
16 experience long periods of minus 30 degrees or colder
17 over those peak periods?

18 MR. WHITFIELD RUSSELL: It gets pretty
19 cold around Messina, New York, yes.

20 MS. PATTI RAMAGE: As cold as Winnipeg?

21 MR. WHITFIELD RUSSELL: Not as cold as
22 Winnipeg, but it gets pretty bitter, and in Maine too.
23 I grow -- I grew up in Maine.

24 MS. PATTI RAMAGE: And do those
25 customers count on electricity for heat?

1 MR. WHITFIELD RUSSELL: Less so in the
2 non -- in the investor owned ones that rely on thermal
3 fossil fuel, no. But there are some -- there are some
4 communities served by the New York Power Authority,
5 which is pretty much all hydro, and I think there's
6 some substantial reliance on electric heat there, yes,
7 because it's so cheap.

8 MS. PATTI RAMAGE: And if I could just
9 have a moment.

10

11 (BRIEF PAUSE)

12

13 MS. PATTI RAMAGE: And with that, I
14 think that concludes our questions, so I want to thank
15 you both --

16 MR. WHITFIELD RUSSELL: Thank you.

17 MS. PATTI RAMAGE: -- for coming up and
18 testifying. And if I could maybe turn over the mic to
19 Mr. Peters, but I'm going to suggest we have a quick
20 break, because I got rushed down here right after
21 lunch.

22 THE CHAIRPERSON: That's a very good
23 idea. So I think we'll take ten (10) minutes.

24

25 --- Upon recessing at 2:56 p.m.

1 --- Upon resuming at 3:15 p.m.

2

3 THE CHAIRPERSON: I believe that we can
4 resume the proceedings. So, Mr. Peters, please.

5

6 CROSS-EXAMINATION BY MR. BOB PETERS:

7 MR. BOB PETERS: Thank you. Thank you,
8 Mr. Chairman. Good afternoon, Ms. Looker, Mr. Russell.

9 MR. WHITFIELD RUSSELL: Good afternoon.

10 MR. BOB PETERS: I'll start my
11 questions going through your slide presentation. Just
12 for ease of following, if Diana can assist me on that.
13 But we'll start off on your slide number 5, please.
14 And that's slide 5 of MMF Exhibit 31 revised.

15 The general thrust, Mr. Russell and Ms.
16 Looker, of -- of the -- this portion of your written
17 pre-filed evidence also found in MMF Exhibit 14 is to
18 the effect that from Whitfield Russell Associates's
19 perspective, the seventy-eight (78) year study period
20 is not the correct period of time in which to analyze
21 Manitoba Hydro's needs.

22 Would that be correct?

23 MR. WHITFIELD RUSSELL: Yes.

24 MR. BOB PETERS: And are you suggesting
25 a shorter period of time, such as the twenty (20) year

1 that was used in the financial resources, or is it
2 thirty-five (35) years as done in the Power Resource
3 Plan?

4 What number does WRA suggest is more
5 appropriate than the seventy-eight (78) years?

6 MR. WHITFIELD RUSSELL: Well, in -- in
7 fairness, we're -- we're not used to dealing with hydro
8 systems, so there is -- there is that unique thing.
9 But we're -- we usually see twenty (20) to thirty (30)
10 year horizons on planning studies.

11 MR. BOB PETERS: And are those -- are
12 those -- sorry, I didn't mean to interrupt. Are those
13 twenty (20) to thirty (30) year planning studies done
14 primarily for thermal plants?

15 MR. WHITFIELD RUSSELL: Yes.

16 MR. BOB PETERS: And does that twenty
17 (20) to thirty (30) year life equate to the probable
18 useful life of the -- of the --

19 MR. WHITFIELD RUSSELL: Well, it's the
20 economic life. But -- but we've -- we've come across -
21 - Bonneville has -- Bonneville Power Administration has
22 30,000 megawatts of hydro. I don't recall seeing any
23 of their studies that went seventy-eight (78) years,
24 so. But, of course, they haven't built a lot of new
25 hydro.

1 You know, they -- but this just is so
2 far out of the range we've every encountered. And it
3 incorporates so much in -- in the way of speculation
4 that it -- it kind of lends itself to -- it kind of
5 lends itself to -- to getting the answer you want
6 sometimes.

7 MR. BOB PETERS: Do you recall what
8 study period was used in the previous Manitoba Hydro
9 review of Conawapa back in 1990?

10 MR. WHITFIELD RUSSELL: I do not.

11 MR. BOB PETERS: One (1) of the other
12 witnesses in this proceeding, I believe it was La
13 Capra, had -- had used what they called cumulative
14 present values, where they took snapshots along the
15 path to seventy-eight (78) years.

16 You're familiar with that?

17 MR. WHITFIELD RUSSELL: Yes, we -- we
18 incorporated that exhibit. If you will look at page --
19 slide 16.

20 MR. BOB PETERS: And that slide 16 was
21 from the La Capra evidence, but it's not been updated
22 to the most current evidence.

23 Would that be correct?

24 MR. WHITFIELD RUSSELL: That's how I
25 took it, yes.

1 MS. GENEVA LOOKER: It -- this was
2 corrected, but I'm not sure if it includes the updated
3 capital cost information or anything like that.

4 MR. BOB PETERS: Well, Ms. Looker, if
5 we look in the top right-hand corner on your slide 16,
6 I see the number one billion, six hundred and ninety-
7 six million dollars (\$1,696,000,000)?

8 MS. GENEVA LOOKER: You're corre --
9 you're right. I believe they corrected it for the
10 years. That's why they called it corrected. But
11 you're right, it is -- it is using the old 2012 NFAT
12 material.

13 MR. BOB PETERS: All right. Thank you.
14 And -- but they also, in -- in taking their snapshots
15 at different points in time along the cumulative
16 present value, they may have gone twenty (20), thirty-
17 five (35), fifty (50) years?

18 MR. WHITFIELD RUSSELL: Yes.

19 MR. BOB PETERS: Is there one (1)
20 metric that is more valuable than any other metric in
21 the measurements?

22 MR. WHITFIELD RUSSELL: Well, we -- we
23 work mostly for people that buy and sell power, and so
24 the revenue requirements are -- are of significance to
25 us in our work, and it -- it's just what we're the most

1 familiar with.

2 MR. BOB PETERS: So if the revenue
3 requirements are what -- what should drive, that speaks
4 to perhaps the twenty (20) year financial forecast
5 outlook that --

6 MR. WHITFIELD RUSSELL: Yes.

7 MR. BOB PETERS: -- the utility
8 generally uses?

9 MR. WHITFIELD RUSSELL: Correct.

10 DR. HUGH GRANT: It would be helpful to
11 know what the discount rate is on this graph.

12

13 (BRIEF PAUSE)

14

15 MR. BOB PETERS: Board member Grant,
16 the answer that you've heard is the understanding of
17 the witnesses, which I'm not disagreeing with. But I
18 also think this may be a matter that the panel has
19 asked for La Capra to provide additional information,
20 perhaps a revision. So that, I believe, is still to be
21 filed.

22

23 CONTINUED BY MR. BOB PETERS:

24 MR. BOB PETERS: If we turn to slide 8
25 as we work our way through, Mr. Russell, Ms. Looker,

1 the -- this document, I think, the panel has seen
2 before.

3 But under the US dependable sales, did
4 Whitfield Russell Associates recognize that the US
5 dependable sales included diversity exchange sales at
6 MISO market prices?

7 MR. WHITFIELD RUSSELL: I did not.
8 That -- that would make a difference.

9 MR. BOB PETERS: Well, let's -- if --
10 if we assume that is the case, and if that's found to
11 be the case, what would that -- what imp -- impact
12 would that have on the -- the comments you've made
13 relative to this -- this page?

14 MR. WHITFIELD RUSSELL: In other words,
15 if you had a diversity transaction with firm power
16 going out and firm power coming in and the dollars
17 balanced out, I'm not -- I'm not sure how the megawatt
18 hours and the dollars would be accounted for on a
19 diversity transaction. But I -- I could see how that
20 would scramble the results, yes.

21 MR. BOB PETERS: And are diversity
22 transactions a common contractual arrangement in many
23 of the jurisdictions you're familiar with?

24 MR. WHITFIELD RUSSELL: Yes, they are.
25 We -- we see a lot of that, particularly in the Pacific

1 Northwest with California.

2 MR. BOB PETERS: And it's a swapping of
3 capacity basically as between two (2) -- two (2)
4 different entities?

5 MR. WHITFIELD RUSSELL: Yes. There's a
6 variety of -- of formats. Some, it's you just exchange
7 kilowatt hours at certain guaranteed capacity rates.
8 Sometimes there's no guarantee on the capacity rate.
9 Sometimes -- for a long time, Bonneville sold capacity
10 for 2,500 kilowatts of energy every year. And so that
11 was a way to get energy, but not get a capacity charge.

12 MR. BOB PETERS: And are you aware that
13 Manitoba Hydro's diversity exchanges are done at market
14 -- MISO market prices without -- without capacity
15 charges?

16 MR. WHITFIELD RUSSELL: I -- I was not.
17 We -- we didn't have access to unredacted contracts, so
18 I didn't invest a lot of time in that. I -- I did not
19 know that.

20 MR. BOB PETERS: All right. Speaking
21 of contracts, on page 11 of your presentation, you talk
22 about different contracts.

23 Have you -- have you reviewed in detail
24 the -- the public versions of Manitoba Hydro's export
25 contracts?

1 MR. WHITFIELD RUSSELL: I read through
2 some of them and some of the term sheets. But without
3 the prices and -- there was some extensive redacted
4 sections in some of the contracts, so -- but, no. It's
5 a very thick book of contracts, and I can't say that I
6 invested a lot of time in it.

7

8 (BRIEF PAUSE)

9

10 MR. BOB PETERS: I wanted to make sure
11 the panel understood, and I think you and the Chairman
12 may have had some discussion about the second bullet on
13 page 11.

14 And that had to do with the market for
15 firm exported energy being determined by the marginal
16 cost of the alternative source, correct?

17 MR. WHITFIELD RUSSELL: Yes.

18 MR. BOB PETERS: And your suggestion
19 here is that counterparties will pay a certain price
20 for energy regardless of the marginal cost of its
21 generation.

22 MR. WHITFIELD RUSSELL: Yes. There --
23 there -- a buyer's going to look at his alternatives.
24 And -- and -- well, I did -- I had some questions from
25 -- I think it was Hydro. If the alternative is

1 capacity and energy from hydro versus capacity and
2 energy from a thermal plant, that's one (1) set of
3 questions.

4 If the -- if the issue is buying enough
5 renewable power in the US to meet a renewable portfolio
6 standard, plus firming it up, firming up wind with
7 thermal, that's a different calculation. I think hydro
8 would look better in -- in that sort of a situation.
9 Most -- as you know, most renewable resources other
10 than geothermal, you really can't hold a flat schedule.
11 It's intermittent power and to serve a customer around
12 the year on a firm basis there's not much beyond hydro
13 that provides renewable power that's schedulable and --
14 and can hold a schedule and be firm.

15 So this was just a shorthand for making
16 a capacity comparison. I understand that the -- that
17 the calculus engaged in by a US buyer subject to a
18 renewable portfolio standard would -- would encompass a
19 great deal more than what's seen here.

20 MR. BOB PETERS: When you and the
21 Chairman had some discussion, Mr. Russell, about the
22 purchase of -- Manitoba Hydro purchasing firm energy,
23 you referenced that -- and it may have also been in
24 discussion with Ms. Ramage, that you referenced that
25 there could be a backhaul arrangement, if I understood

1 correctly.

2 MR. WHITFIELD RUSSELL: Yes.

3 MR. BOB PETERS: And where could power
4 suppliers be located under a backhaul arrangement?

5 MR. WHITFIELD RUSSELL: Well,
6 downstream as the flow goes. In the US the prevailing
7 flow is from the west, midwest, toward the east coast.
8 And it -- it almost never reverses except possibly
9 during some cold strikes we've had which reversed some
10 power flows.

11 So if the prevailing flow when you want
12 your power is toward the -- toward the east, and the
13 prevailing flow on the -- and -- and your buyer is
14 located downstream, and if he wants to back schedule
15 some power to Manitoba he's going to unload the
16 transmission network between, say, Chicago and Manitoba
17 when the prevailing flow is toward the east. So you
18 really -- you can expect to have a lot more
19 transmission available for a backhaul arrangement.

20 MR. BOB PETERS: Would these be firm
21 bilateral arrangements?

22 MR. WHITFIELD RUSSELL: Sure. They
23 could be. Yes. Or -- or you could have a network
24 arrangement. In other words, if you bought network
25 power you wouldn't have to tie it to a specific

1 resource. You could tie it to a group of network
2 resources.

3 MR. BOB PETERS: And how does
4 transmission congestion impact that arrangement?

5 MR. WHITFIELD RUSSELL: Well, on a
6 backhaul you're much less susceptible to congestion.
7 In fact, you're relieving congestion.

8 MR. BOB PETERS: On page 10, which I
9 glanced over, it was a page with a lot of numbers on
10 it, Mr. Russell and Ms. Looker. The purpose of your
11 showing this information is -- is to look at the
12 forecasting of Manitoba Hydro relative to certain
13 years, correct?

14 MR. WHITFIELD RUSSELL: Yes. Yes. And
15 -- and really it was -- it was to reinforce the point
16 made on slide 8 with the historic sales. In other
17 words, the historic sales were plummeting and at the
18 same time the forecast of future sales was plummeting.
19 So that -- that to me was a strong buy signal and
20 certainly not an aggressive sell signal for someone
21 developing a high cost -- capital cost hydro plant.

22 MR. BOB PETERS: Are you suggesting
23 that the export prices have -- have now bottomed out,
24 so to speak?

25 MR. WHITFIELD RUSSELL: I -- I was not

1 saying any such thing. I'm -- I'm -- I don't know how
2 we can be certain of that until it happens.

3 MR. BOB PETERS: Only in the rearview
4 mirror?

5 MR. WHITFIELD RUSSELL: Yes. I mean,
6 you have to make a guess. And you do your modelling
7 and you make your best guess, but with the US Congress
8 in charge of carbon emissions we don't know when that's
9 going to happen.

10 MR. BOB PETERS: On slide 12 you talked
11 about the in-service costs, and you explained your
12 understanding of that to -- to Dr. Grant. Did
13 Whitfield Russell Associates actually calculate the
14 initial in-service costs, that is the annual revenue
15 requirements, for Wuskwatim or Keeyask or Conawapa?

16 MR. WHITFIELD RUSSELL: No, we -- we
17 know that -- that a \$6.3 billion Conawapa cost and a 9
18 percent levelized annual -- levelized fixed charge
19 applied to a declining rate base. It would start up in
20 the thirteen (13) cent range, I think on Keeyask, yes.

21 MR. BOB PETERS: The 6.3 million you
22 referenced was for Keey --

23 MR. WHITFIELD RUSSELL: Six (6) point -
24 - 6.3 billion --

25 MR. BOB PETERS: Sorry.

1 MR. WHITFIELD RUSSELL: -- the -- the
2 new one.

3 MR. BOB PETERS: And that was
4 referencing Keeyask?

5 MR. WHITFIELD RUSSELL: Yes. So we --
6 we were -- in other words, by using these ten (10) --
7 ten (10) cent numbers, the ten (10) hundred dollar per
8 megawatt hour, we -- we were understating the potential
9 impact.

10 MR. BOB PETERS: Did Whitfield Russell
11 Associates analyze the unit sale prices of the
12 combined-cycle gas turbine electricity going into the
13 future?

14 MR. WHITFIELD RUSSELL: We've done that
15 on many occasions in the past. We haven't done it
16 recently for this case.

17 MR. BOB PETERS: What -- what has been
18 the unit sale prices of CCGT?

19 MR. WHITFIELD RUSSELL: The general
20 rule of thumb when we -- we checked this last fall and
21 got -- got indications from a number of developers and
22 it was around twelve (1,200) hundred a kilowatt
23 completed, was the rule of thumb for combined-cycle gas
24 with no coal generation. With no steam load, in other
25 words.

1 So you got a -- like a seven thousand
2 (7,000) heat -- or a sixty-three (63) hundred heat rate
3 and twelve (1,200) hundred times whatever the -- the
4 capital structure of the developer was. But it -- it
5 all depends on -- on who the developer is and how his
6 capital structure -- how his project financing is done,
7 and so forth.

8 MR. BOB PETERS: On your slide 11 you
9 were comparing then that -- that twelve (1,200) hundred
10 dollar per kilowatt number to the nine thousand
11 (\$9,000) --

12 MR. WHITFIELD RUSSELL: Yes.

13 MR. BOB PETERS: -- dollar per kilowatt
14 for -- for the hydro capacity?

15 MR. WHITFIELD RUSSELL: Correct.

16 MR. BOB PETERS: And what does the CCGT
17 price work out to in terms of an energy price per
18 kilowatt hour?

19 MR. WHITFIELD RUSSELL: Well, it
20 depends on the gas price. If you've got a seven
21 thousand (7,000) heat rate on the combined cycle and
22 four dollar (\$4) gas, it's twenty-eight dollars (\$28) a
23 megawatt hour, and then you add three (3) or four (4) -
24 - two (2) -- two (2) to four dollars (\$4) for -- for
25 O&M, so that's another -- that's in the thirty (30),

1 thirty-two (32) range, and then your fixed charges.

2 So I haven't -- I haven't done the
3 arithmetic, but that's the general framework.

4 MR. BOB PETERS: And how much are the
5 fixed charges?

6 MR. WHITFIELD RUSSELL: Like I say, it
7 depends upon who's financing it and what format. If
8 it's an investor owned utility financing it to put in
9 rate base, you'd -- you'd run a calculation with his --
10 with his normalized taxes and his -- his capital
11 structure, and you'd get a life cycle cost that way.
12 If it was a project financing with a -- with a 20
13 percent equity and 80 percent debt, and you'd get a
14 very different and lower cost per capita.

15 So I'm -- I'm not trying to evade your
16 question. I'm saying it depends on who -- who's
17 building it and for what purpose.

18 MR. BOB PETERS: Oh, I understand your
19 point. On slide 13 you plotted, from Manitoba Hydro's
20 Appendix 11.3, some average export revenue on -- on its
21 exports to the United States?

22 MR. WHITFIELD RUSSELL: Yes.

23 MR. BOB PETERS: How does Whitfield
24 Russell explain -- Whitfield Russell Associates explain
25 the low value of exports in the All Gas Plan relative

1 to the -- to the other plans?

2 MR. WHITFIELD RUSSELL: I -- I don't
3 know what the pattern of sale was. There's certainly
4 going to be fewer sales with the All Gas Plan. So I --
5 I didn't delve into it, but I would expect that there's
6 -- there's less for sale, and the All Gas Plan probably
7 wouldn't have much in the way of firm sales.

8 So that would bring whatever they did
9 sell down closer to an opty -- opportunity sale price.
10 But, again, we didn't investigate the details of that
11 modelling.

12 MR. BOB PETERS: You didn't determine
13 whether or not there was firm export capability?

14 MR. WHITFIELD RUSSELL: On the gas?

15 MR. BOB PETERS: Yes, on the All Gas
16 Plan.

17 MR. WHITFIELD RUSSELL: Correct.

18 MS. GENEVA LOOKER: The material came
19 from Appendix 11.3. And I don't know whether it's
20 broken down into dependable and opportunity sales.
21 Maybe. I'm not sure.

22 MR. WHITFIELD RUSSELL: It's -- it
23 wasn't, that I recall.

24

25 (BRIEF PAUSE)

1 MS. GENEVA LOOKER: It is -- it is not
2 broken out. It's just total export sales to the USA.

3 MR. BOB PETERS: All right. Thank you
4 for that.

5

6 (BRIEF PAUSE)

7

8 MR. BOB PETERS: On slide 20 -- slide
9 21, can you explain how the unit cost of Keeyask and
10 Bipole III line was calculated?

11 MS. GENEVA LOOKER: This was meant to
12 be a very simple analysis. So what we did was I took
13 \$6.2 billion for Keeyask, \$3.3 billion for Bipole III,
14 summed them up to 9.5 billion, then depreciated them
15 over sixty-seven (67) years and used an 8 percent
16 carrying charge to sort of look at what the revenue
17 requirement would be over time, and then divided by the
18 average megawatt hours output of Keeyask.

19 MR. BOB PETERS: So the decline in
20 annual unit cost was because of the depreciation that
21 you -- you employed over the --

22 MS. GENEVA LOOKER: Yes.

23 MR. BOB PETERS: -- sixty-seven (67)
24 years?

25

1 (BRIEF PAUSE)

2

3 MR. BOB PETERS: One (1) of the
4 subjects that you talked with, I think, both the panel,
5 as well as Ms. Ramage about, was the -- what's been
6 called the import line. And we could start, I guess,
7 at your slide 39 in terms of a reference slide.

8 I want to explore and understand better:
9 the suggestion from WRA is that an import line is
10 possible?

11 MR. WHITFIELD RUSSELL: Yes.

12 MR. BOB PETERS: Can you give this
13 panel any examples where an import line has been used?

14 MR. WHITFIELD RUSSELL: Sure. Southern
15 California Edison is quite dependent upon imports from
16 the desert southwest, which is this -- coal-fired
17 plants to its east, and firm purchases from --
18 historically, firm purchases from the Pacific
19 Northwest.

20 So they have a very extensive EHV
21 network dependent upon the availability of those
22 resources. And it's a combination of resources that
23 they own in whole and part, and it's in the desert
24 southwest and -- and sometimes firm purchases.

25 But these regions, like Southern

1 California, are -- are very much dependent upon firm
2 imports.

3 MR. BOB PETERS: And are these
4 transmission lines owned as a merchant line by an
5 investor?

6 MR. WHITFIELD RUSSELL: Typically, no.
7 It -- they can be now, but, no. Typically,
8 historically, no. They were -- now they're managed and
9 planned by the California ISO. Ownership is private
10 for the most part, and management operation is by the
11 ISO.

12 MR. BOB PETERS: And is the ownership
13 by -- by an entity that is also the utility, or is it a
14 standalone transmission company?

15 MR. WHITFIELD RUSSELL: It's -- it's
16 some vertically integrated and some without generation.

17 MR. BOB PETERS: And is the decision to
18 build or not build made by the investor or is it
19 mandated by the ISO?

20 MR. WHITFIELD RUSSELL: The OATT
21 administered by the California ISO is what determines,
22 but it's under the general management of California
23 ISO.

24 Now, there is a hierarchy. In other
25 words, first and foremost, you got to meet the

1 reliability standards, and if nobody's offering to
2 build a line for import, low cost imports or -- for
3 economic reasons, it's got to be built to maintain
4 reliability standards.

5 Then if, in addition, someone wants to
6 build a line for economic purposes that's over and
7 above what's required for reliability alone, that --
8 that's a different kind of calculus, and that also is
9 permitted. And now with Order 1000, planning must be
10 -- must be done to incorporate the need for public
11 policy, satisfying public policy needs, such as
12 renewable power.

13 So there's -- there's a hierarchy, but
14 it tends to be under the auspices of the California
15 ISO. In my dealing with them on behalf of wind
16 generators, you make your filing with the California
17 ISO and you negotiate with the local owner of the
18 transmission for your needed upgrades.

19 So if I'm a wind generator in Palm
20 Springs and I want to sell to a customer in the
21 California -- Southern Cal. Edison area, I -- I got to
22 California. The -- the ISO will send me to Southern
23 California Edison for interconnection and transmission,
24 the administration of my needed upgrades.

25 MR. BOB PETERS: So let's bring that a

1 little closer to home, or at least my home. And if
2 Manitoba Hydro wanted to have a -- a line into the
3 United States for its exports and also the ability to
4 import, who would it approach? Does it approach the
5 ISO, or does it go to an investor and see if it can
6 strike a --

7 MR. WHITFIELD RUSSELL: Are we talking
8 about an interconnection to MISO?

9 MR. BOB PETERS: Yes.

10 MR. WHITFIELD RUSSELL: All right.
11 Yes, I think -- I think the dealings would be with
12 MISO, but the studies might be conducted -- in the case
13 of the studies we've looked at, the studies might be
14 conducted by one (1) of the investor-owned utilities.
15 We've seen one (1) by XL, and NSP. But this is usually
16 a consortium of engineers from different participants
17 in MISO, and they get together and conduct these
18 studies.

19 In fact these kind of consortiums date
20 back to my days with PEPCO in the '70s: Multi-company
21 arrangements are -- or groups are assembled to do
22 analysis of needed upgrades.

23 MR. BOB PETERS: Under the example, who
24 would own the land -- the line -- the line into MISO?

25 MR. WHITFIELD RUSSELL: Typically in

1 the US, whoever's service territory it's in owns the
2 line. That was one (1) of the major controversies
3 surrounding Order 1000 because FERC was trying to push
4 independent developers and give them an opportunity to
5 compete for construction of transmission lines. And
6 they finally reached a -- FERC sort of reached a -- a
7 compromise arrangement in which anything built on the
8 existing -- in a transmission owner's rights-of-way
9 would be built by the existing owner; anything on a new
10 right-of-way would be up for competition.

11 MR. BOB PETERS: So it would have to be
12 the utility whose service territory is going to receive
13 the line that would have to sponsor it through the US
14 regulatory approvals?

15 MR. WHITFIELD RUSSELL: Not
16 necessarily, no, no. But you'd have to deal with him
17 for getting it done in that territory.

18 There -- there is a custom, I would say
19 it's a default, that the local in -- investor owned
20 utility owner would -- would build and -- and develop
21 the line sometimes for -- for a joint ownership, and
22 sometimes solely own it, and then render transmission
23 service to the customer. I think you have a mix of
24 both under the arrangements for the line to -- to
25 Minnesota Power.

1 MS. GENEVA LOOKER: I would note,
2 however, that there has been an increase in merchant --
3 I'm not sure they're merchant transmission lines, but
4 they are transmission-only companies who have been
5 coming in and proposing to build lines, especially in
6 MISO, currently in order to access wind power and send
7 it to the load centres. And some of those are -- are
8 not the local transmission provider.

9 MR. WHITFIELD RUSSELL: That's true.

10 MS. GENEVA LOOKER: And so that is an
11 opportunity -- there are opportunities now to work with
12 some of these newer entities that are out there who are
13 trying to profit from building transmission.

14 MR. BOB PETERS: Would Manitoba
15 Hydro's, if it could build into the United States a
16 transmission line, have to be coupled with renewable
17 energy proposals to get approval?

18 MR. WHITFIELD RUSSELL: Not -- not
19 necessarily, no. It would get -- the -- the
20 transmission proponent would file his transmission
21 service request and get in the queue. That's -- that's
22 the typical way you proceed.

23 MR. BOB PETERS: In terms of Manitoba
24 Hydro having the best access into the MISO market, how
25 deep into the MISO market would it want to have its

1 transmission?

2 MR. WHITFIELD RUSSELL: Well --

3 MR. BOB PETERS: To maximize its return
4 and its ability to sell?

5 MR. WHITFIELD RUSSELL: The -- it
6 depends. It depends on how much displacement
7 capability there is. And, of course, it depends upon
8 whether you're looking for a backhaul. If -- if you
9 were going east for a supplier, I think you'd benefit
10 more from the -- from the backhaul -- benefits of the
11 backhaul. If you were going to the west, I think
12 there'd be -- some major reinforcements might be needed
13 because you'd be asking for power to be sent in -- in -
14 - as increments on top of the prevailing flow. So
15 you'd need more capability. If you were going south,
16 somewhere in between.

17 And now the other thing is this power
18 moves thousands of miles -- a thousand miles from
19 California to -- to Bonneville and from -- and even BC
20 Hydro has made sales in Southern California as long --
21 as far back as the 1960s.

22 And this is -- this is done by
23 displacement. So you don't have to build a new
24 dedicated line from the buyer to the seller to get the
25 trans -- to get the transaction done. What you do is

1 you find the choke points on the transmission system
2 through the studies and you upgrade the checkpoint --
3 the choke points to create the capacity that you need.
4 And very often the power will flow by displacement
5 instead of over a dedicated line.

6 And again, the only time you get a one
7 (1) to one (1) relationship between the buyer and
8 seller is if you have a direct current line. And so
9 when you see transactions over the DC line from the
10 Columbia River, say, to Los Angeles at Sylmar, S-Y-L-M-
11 A-R, those will be what you put into the -- what you
12 put into the terminal of the line is exactly what you
13 get, less losses, at the far end of the line. And
14 that's the only -- that's the exception to the rule.

15 All of the AC, alternating current,
16 flows, the power flows by displacement. It's a long
17 answer to your question, but let me just say it this
18 way: If I wanted to go to -- if I wanted to go to St.
19 Louis and buy from Union Electric, which now is called
20 Ameren, A-M-E-R-E-N, a coal-fired utility and I wanted
21 to buy power and have it moved, then he would -- that -
22 - that entity, or you -- or Manitoba Hydro would --
23 would file their application. And then the studies
24 would be conducted to tell you where all the choke poin
25 -- choke points are and -- and those upg -- and the

1 cost of making the upgrades to relieve the constraints
2 between Ameren and the -- the Manitoba border with
3 Minnesota.

4 So that's -- that's the way the process
5 plays out. But you wouldn't have to build a new
6 dedicated line all the way to St. Louis to get that
7 power. You'd pay for the upgrades.

8 MR. BOB PETERS: And until the study is
9 done, you don't know how many upgrades, or where they
10 are, or what they're going to cost?

11 MR. WHITFIELD RUSSELL: That's right.
12 And they're done in -- and they're done in the order of
13 the queue.

14 Now, there's an interesting thing in
15 your case here in Manitoba. Because of those multi-
16 value projects that were underway by MISO, what happens
17 is you do the upgrades under the multi-value program is
18 -- multi-billion dollar upgrades have been -- and if
19 your timing is right and you're shrewd, enough you can
20 get your transmission capacity without making large
21 capital investments in upgrades, because just in
22 association with people prior to you in the queue,
23 sometimes capacity becomes available.

24 And I think that's one (1) of the
25 arguments that I hear in -- in defence of maintaining

1 the proposed arrangements, that if -- if you didn't go
2 forward with the Pub Service and the Min Power deal,
3 that preferred position in the queue where you're
4 getting east to west access to Minnesota Power and to
5 Pub Service, if you -- if you struck the deal, you'd
6 fall out of the queue and the guy next in the queue
7 would get that capacity, and you'd go to the end of the
8 queue to make a new request.

9 So there -- there is -- there is
10 sometimes some savings to be realized on transmission
11 upgrades if your timing is right and -- and you make
12 your request when there's capacity available at no
13 upgrade cost.

14 MR. BOB PETERS: And when you say, "Pub
15 Service," you're referring to WPS?

16 MR. WHITFIELD RUSSELL: Yes, Wisconsin
17 Public Service. That's our shorthand for that company.

18 MR. BOB PETERS: Have you studied
19 Manitoba Hydro's transmission capabilities into the
20 United States at this point in time?

21 MR. WHITFIELD RUSSELL: Beyond -- no,
22 we were -- we were -- we asked many questions about
23 that. We were not permitted to see the studies. It
24 was all declared to be CSI. We did -- now, there is an
25 Appendix N and an Appendix O to the MISO studies and we

1 have cited some of those in our -- in our report. We
2 did review those studies, because they -- they
3 evaluated, I think, 2,000 megawatts of additional wind
4 in combination with an 1,100 megawatt export from
5 Manitoba. And those studies are available. We can get
6 them for you.

7 MR. BOB PETERS: I don't think that's
8 necessary. I think we have access to them, as well, as
9 required. But on slide 40 -- I'm sorry, on slide 41,
10 we're still on the same topic that we've been
11 discussing, and that is what has been called the import
12 line. And you reference on slide 41 many of the things
13 we've talked about.

14 But the suggestion when you presented
15 this slide was that, based on how much money Manitoba
16 Hydro is having to pay Minnesota Power on account of
17 its taking additional ownership and paying additional
18 capital costs, that suggests that there's an incentive
19 there for parties to come in and pick up the cost of
20 transmission?

21 MR. WHITFIELD RUSSELL: Yes. And I'm
22 referring specifically to Mr. Jacobson's slide 88 on
23 Exhibit 95.

24 MR. BOB PETERS: Maybe we'll ask Diana
25 to pull that up. I don't have that committed to

1 memory, perhaps unlike Dr. Jacobson, but sorry about
2 that. So Exhibit Manitoba Hydro 95, slide 88?

3 MR. WHITFIELD RUSSELL: Yes, sir. And
4 so what this portrays is the various combinations of
5 Pub Service participation in the new 500 kV line and
6 for a 40 percent ownership. I -- I'm not sure what
7 that 40 percent represents. The 66 percent, I
8 understand, are the percentages of cost responsibility
9 borne by Manitoba Hydro under that scenario.

10 So there's a 66 percent of the -- of the
11 cost of the capital -- capital cost of the line and the
12 O&M for which Manitoba Hydro is responsible, but it's
13 putting in 304 million to own 49 percent. That's how I
14 understood the -- the testimony.

15 And then I looked at the ongoing O&M,
16 567 million. And said to myself, That -- that's a
17 very, very disproportionate amount for O&M. I
18 understand it's a present worth number of future O&M, I
19 took it.

20 And but I understood from the testimony
21 of Mr. Jacobson that that is accounted for in some
22 substantial part by the fixed charges Manitoba Hydro
23 will pay to Minnesota for the ownership costs
24 differential between its 49 percent ownership and the
25 66 percent responsibility. And those are some fairly

1 substantial dollars, as I understand it.

2

3 (BRIEF PAUSE)

4

5 MR. BOB PETERS: While we're on this
6 slide, and I was pausing to consider whether I would go
7 to -- and maybe I will -- go to Manitoba Hydro's
8 Exhibit 139. It's a public -- it's a public record
9 exhibit. It has some redactions on it. It probably
10 has Dr. Jacobson's fingerprints on it, too.

11 And I'm not sure if you've had an
12 opportunity, Ms. Looker and Mr. Russell, to review this
13 particular exhibit. And I don't even know what date it
14 was filed.

15 But is it one that you're familiar with?

16 MR. WHITFIELD RUSSELL: I have not seen
17 this before.

18 MR. BOB PETERS: All right.

19 MR. WHITFIELD RUSSELL: It sound -- it
20 sounds to be on point though.

21 MR. BOB PETERS: Well, if we could just
22 scroll to the next -- to page 2, I think what we get to
23 is a further explanation. There's a series of tables
24 dealing with capital O&M and -- and certain investments
25 in the -- in the line. And I should indicate that

1 there have been some written questions posed recently
2 to Manitoba Hydro to clarify certain aspects of this.

3 So the point I want to get to though is
4 Manitoba Hydro is making an investment in this line
5 because WPS has determined it will not be investing in
6 the line.

7 Is that your understanding?

8 MR. WHITFIELD RUSSELL: I so
9 understood, yes.

10 MR. BOB PETERS: And that being the
11 case, and you're showing us on the previous slide that
12 you looked at which was Manitoba Hydro Exhibit 95 and
13 slide 88 of the revenue that would flow from that
14 arrangement to suggest that there's an incentive in
15 there to -- to build or own transmission, does all of
16 this suggest that Manitoba Hydro will be able to, in my
17 words, sell all or part of their interest in this Great
18 Northern Transmission Line if they so desire?

19 MR. WHITFIELD RUSSELL: I would think
20 there would be interested buyers, yes.

21 MR. BOB PETERS: And what would be the
22 process in -- in terms of marketing that? Is that a --
23 is that one (1) where there's an opportunity to put it
24 out to see what the market would pay for them? Or do
25 they have to negotiate with a counterparty?

1 MR. WHITFIELD RUSSELL: I know that
2 some transmission systems have been sold in their
3 entirety by taking bids. For example, the Consumer's
4 Power System was bought by a company affiliated with
5 Trans-Elect. And then -- but I think some negotiation
6 would be expected. But, you know, it might be preceded
7 by a request for proposal and then evalu -- negotiate
8 with the best bids.

9 MR. BOB PETERS: All right. On the
10 same -- on slide -- back to slide 41 of Exhibit MMF-31
11 revised, the third bullet, an indication that certain
12 Minnesota utilities have petitioned the Minnesota
13 Public Utilities Board to consider a competing
14 alternative to the Great Northern Transmission project.

15 MR. WHITFIELD RUSSELL: Yes.

16 MR. BOB PETERS: And you're relying on
17 a Megawatt Daily article of April 17th, 2014, for that
18 information?

19 MR. WHITFIELD RUSSELL: Yes, and I
20 followed up by phone calls to Missouri River, who was
21 one (1) of the participants.

22 MR. BOB PETERS: And --

23 MR. WHITFIELD RUSSELL: And I confirmed
24 the -- what's going on, yes.

25 MR. BOB PETERS: Well, first of all,

1 could -- could you, through your counsel, undertake to
2 file a copy of the Megawatt Daily for April 17, 2014?

3 MR. WHITFIELD RUSSELL: Of -- of
4 course, sure.

5

6 --- UNDERTAKING NO. 147: Whitfield Russell
7 Associates to provide a
8 copy of the April 17, 2014,
9 article from Megawatt Daily

10

11 CONTINUED BY MR. BOB PETERS:

12 MR. BOB PETERS: And in addition to
13 that you said that the utilities have petitioned the
14 Minnesota regulator.

15 Does that suggest there is opposition to
16 the Great Northern Transmission Line?

17 MR. WHITFIELD RUSSELL: Yes, they --
18 the story that I got from my contact was that there was
19 some interest on the part of these other folks to get -
20 - build transmission to Manitoba in -- in lieu of or in
21 addition to. But for this purpose, in lieu of the
22 Great Northern Transmission project.

23 MR. BOB PETERS: And is it your
24 understanding that that interest in building a
25 transmission line would be available to serve Manitoba

1 Hydro?

2 MR. WHITFIELD RUSSELL: Yes.

3 MR. BOB PETERS: Is there a public
4 filing that you're aware about as to whether there's
5 any costs associated with that line that would have to
6 be borne by the Manitoba utility?

7 MR. WHITFIELD RUSSELL: I haven't
8 looked. I expect there is a part of a petition. I
9 don't know.

10 MR. BOB PETERS: All right. Well, then
11 I'm going to ask --

12 MR. WHITFIELD RUSSELL: I'd be
13 surprised if there weren't.

14 MR. BOB PETERS: -- I'm going to ask
15 for some more homework for Ms. Saunders and Mr.
16 Marques, if -- if Whitfield Russell Associates could
17 undertake to determine whether there is, on the public
18 record, indication as to what alternative arrangement
19 is being proposed and whether or not there is any
20 suggestion that Manitoba Hydro would have to contribute
21 financially to that project.

22 MR. WHITFIELD RUSSELL: Okay. And I do
23 know that the line was going to -- is proposed to go
24 to Fargo, where it would pick up the capex lines for
25 deliveries to the East. But they were also interested

1 in taking deliveries back to the West, because there's
2 been a very great increase in loads in North Dakota in
3 connection with the Bakken Reserve development, B-A-K-
4 K-E-N.

5 I was also told that the -- the loop
6 flow problem associated with the Fargo line would not
7 be as significant -- it was likely not as significant
8 for an import line as it would be for an export line.

9 MR. BOB PETERS: At the risk of
10 sounding like I understand what that means, can you
11 explain to the panel what the loop flow problem is at--

12 MR. WHITFIELD RUSSELL: Yes

13 MR. BOB PETERS: -- Fargo?

14 MR. WHITFIELD RUSSELL: I'm sorry, it
15 was too cryptic. The -- the MISO studies of the
16 proposed Great Northern Transmission Project evaluated
17 both a line to Fargo and a line to -- planned to
18 Blackberry.

19 And one (1) of the -- even though it's a
20 longer line and more expensive to go to Blackberry, it
21 had in its favour less loop flow would enter Manitoba
22 from North Dakota and Minnesota and make its way
23 through the Manitoba Hydro transmission system and be
24 superimposed on the exports that would go to Black --
25 Blackberry.

1 So that -- that loop flow problem would
2 be far worse, apparently, if you go to Fargo than it
3 would be if the line goes to Blackberry. I raised that
4 issue with my contact at the Missouri River Energy
5 System. And his -- his response was that they thought
6 it was less of an issue if Manitoba were importing.
7 But he didn't offer any refined analysis.

8 MR. BOB PETERS: Well, we'll see if
9 anything you're able to provide to the panel is
10 supported in the filing to that effect. That would
11 perhaps --

12 MR. WHITFIELD RUSSELL: Okay.

13 MR. BOB PETERS: -- assist in
14 understanding.

15 MR. TONY MARQUES: Mr. Peters, just so
16 that I understand what one (1) of the two (2) of us are
17 going to have to do, we are undertaking to determine
18 whether there was anything on the public record or, I
19 suppose, that's not on the public but that can be
20 disclosed, because obviously Mr. Russell has a number
21 of sources, as to whether Manitoba Hydro is able to
22 benefit from any such line that's -- that's being
23 contemplated and whether or not it would be expected to
24 pay in order to participate?

25 MR. BOB PETERS: Yes. And -- and a bit

1 more generally, Mr. Marques, there's a sugge -- the --
2 the one (1) request was for a copy of that -- that
3 article --

4 MR. TONY MARQUES: Yes, we have that.

5 MR. BOB PETERS: -- which I don't think
6 was -- which is understood. But then it was to -- to
7 whether or not there is information available that
8 would explain the -- the third bullet on slide 41 where
9 Minnesota utilities have petitioned the Minnesota PUB
10 to consider a competing alternative and, in looking to
11 see what that information is, whether there is any
12 indication as to whether a financial contribution from
13 Manitoba Hydro would be part of that.

14 Would that assist you, sir?

15 MR. TONY MARQUES: Yes. Thank you.

16

17 --- UNDERTAKING NO. 148: Whitfield Russell

18 Associates to determine
19 whether or not there is
20 information available that
21 would explain the third
22 bullet on slide 41 where
23 Minnesota utilities have
24 petitioned the Minnesota
25 PUB to consider a competing

1 alternative and, in looking
2 to see what that
3 information is, whether
4 there is any indication as
5 to whether a financial
6 contribution from Manitoba
7 Hydro would be part of that
8

9 CONTINUED BY MR. BOB PETERS:

10 MR. BOB PETERS: And are you able to
11 disclose, Mr. Russell, other than Missouri River, what
12 other Minnesota utilities are involved in the petition?

13 MR. WHITFIELD RUSSELL: It's NSP, which
14 is part of Excel. And I -- I forgot. I think Great
15 River. Great River and -- and maybe Otter Tail Power,
16 but the article will tell you that.

17

18 (BRIEF PAUSE)

19

20 MR. BOB PETERS: Did you want a couple
21 of minutes on that matter, or can we just move forward?

22 MR. WHITFIELD RUSSELL: We can go.

23 MR. BOB PETERS: All right. Also on
24 page 41, the last bullet talked about firm power sold
25 during an off-peak season commands only about half the

1 demand charges associated with on-peak firm power
2 during on-peak seasons, correct?

3 MR. WHITFIELD RUSSELL: Yes.

4 MR. BOB PETERS: Would that apply to
5 both firm winter supply as well as diversity exchange
6 purchases?

7 MR. WHITFIELD RUSSELL: Diversity
8 exchange typically does not have a demand charge, so it
9 would not apply.

10 MR. BOB PETERS: Well, then what about
11 firm winter supply?

12 MR. WHITFIELD RUSSELL: A firm winter
13 supply would probably have a reduced demand charge.
14 And I said firm power sold; I should say that the
15 demand charge on the firm power sold tends to be lower,
16 not the entirety of the power.

17 MR. BOB PETERS: All right. Thank you
18 for that clarification. I want to turn to some of the
19 reliability issues. There was just a couple of
20 questions that...

21

22 (BRIEF PAUSE)

23

24 MR. BOB PETERS: Perhaps a better
25 approach would be on slide 33.

1 (BRIEF PAUSE)

2

3 MR. BOB PETERS: The upshot from the
4 first bullet point is the point that you made, is that
5 the building of Keeyask and Conawapa is going to use up
6 most of Bipole III capacity, correct?

7 MR. WHITFIELD RUSSELL: Keeyask would
8 use up six thirty (630) out of the two thousand
9 (2,000), and Conawapa would use it all up.

10 MR. BOB PETERS: All right. Maybe --
11 maybe a better chart -- and I'll Diana if she could
12 pull up your pre-filed evidence which is MMF Exhibit
13 14. And on page 24, there was a chart that I think
14 will help. That was in direct response -- I think the
15 Chairman and -- and yourself had some questions on it.

16 What you're showing the panel on this
17 chart in the evidence is that Bipoles I and II have a
18 capacity of 3,854 megawatts?

19 MR. WHITFIELD RUSSELL: Yes.

20 MR. BOB PETERS: And that -- the -- the
21 existing northern generation that's using the DC line
22 uses up about 3,562 megawatts.

23 MR. WHITFIELD RUSSELL: Yes.

24 MR. BOB PETERS: And the remaining
25 capacity is not sufficient for Keeyask --

1 MR. WHITFIELD RUSSELL: Correct.

2 MR. BOB PETERS: -- at least on a --

3 the way you've presented it here, correct?

4 MR. WHITFIELD RUSSELL: Correct.

5 MR. BOB PETERS: And if that's the

6 case, you then add Bipole III at about 2,300 megawatts,

7 at least at the northern end?

8 MR. WHITFIELD RUSSELL: Yes.

9 MR. BOB PETERS: And if that leaves a

10 surplus of 1,962 megawatts, that's more than enough

11 room for Conawapa to fit on at 1,395 megawatts,

12 correct?

13 MR. WHITFIELD RUSSELL: Yes.

14 MR. BOB PETERS: So at the end of -- of

15 the -- the Preferred Development Plan, there'd be

16 remaining capacity of 567 megawatts on the Bipole III

17 line?

18 MR. WHITFIELD RUSSELL: Yes, and -- and

19 there are a couple of refinements needed here. First,

20 the Bipole III only goes to twenty-three hundred

21 (2,300) when Conawapa is added. And second, when

22 Conawapa is added, because the network has a stability

23 limit of forty-seven fifty (4,750), that is the wires

24 can carry their full load but the -- it would be

25 unstable if done so, the Northern Collector System must

1 be broken up into two (2) pieces.

2 And when you redo that, there's some
3 considerable testimony by I think Hydro and -- and of
4 course the NFAT itself, a lot of data responses, and by
5 power engineers telling how that works.

6 My understanding is that the end result
7 is that 300 megawatts at Kettle has to moved over to
8 the AC system and moved south through Winnipeg in that
9 way, one hundred (100) to three hundred (300).

10 MR. BOB PETERS: All right. And there
11 was a slide that Dr. Jacobson took the panel to in the
12 slide deck, which was Manitoba Hydro Exhibit 95. I
13 believe slide 85. It's close. It's a -- it's a
14 drawing. And I'll look to Ms. Ramage if she has a
15 better guesstimate. Still getting close. There it is
16 there, yes. Thank you very much. Slide -- slide 83.

17 MR. WHITFIELD RUSSELL: I have it.

18 MR. BOB PETERS: Have you seen this
19 slide before?

20 MR. WHITFIELD RUSSELL: Yes.

21 MR. BOB PETERS: And what you're
22 reminding the panel of is that on both Keeyask and
23 Conawapa coming in service, some of the Keeyask output
24 would be -- I'm sorry, the -- at that point the Kettle
25 output would be moved over to a north-south upgrade

1 project?

2 MR. WHITFIELD RUSSELL: Yes, sir.

3 MR. BOB PETERS: And under the
4 reliability criteria that Hydro used in the Clean
5 Environment Commission proceedings, would Hydro need to
6 build additional north-south transmission after Keeyask
7 and Conawapa comes online, or is this shown here until
8 the Kettle unit on AC the required upgrade?

9 MR. WHITFIELD RUSSELL: May I have the
10 question reread, or restated? It's -- it's simply --
11 the reference to the CEC proceeding is what threw me.

12 MR. BOB PETERS: You had referenced in
13 your materials Manitoba Hydro's reliability standards
14 and -- and what it would need to do for Bipole III when
15 it was before the Clean Environment Commission?

16 MR. WHITFIELD RUSSELL: Yes.

17 MR. BOB PETERS: And my understanding
18 is that as a result of that analysis, Manitoba Hydro
19 would propose doing what they show the Board here on
20 slide 83 of Manitoba Hydro Exhibit 80 -- 95?

21 MR. WHITFIELD RUSSELL: I presume that
22 that would be the way they would incorporate Conawapa,
23 yes.

24 MR. BOB PETERS: Has the cost of this
25 additional transmission been included in the NFAT

1 analysis, do you know?

2 MR. WHITFIELD RUSSELL: I --

3 MR. BOB PETERS: The initial north-
4 south?

5 MR. WHITFIELD RUSSELL: Yes, I think
6 it's the difference between 2A and 2, the plans for the
7 AC upgrades. I'm not -- I'm not recalling the details,
8 but I do remember that discussion.

9 MS. GENEVA LOOKER: I -- I do believe
10 that the costs of the north-south transmission project
11 are included in those plans that require both Keeyask
12 and Conawapa.

13

14 (BRIEF PAUSE)

15

16 MR. WHITFIELD RUSSELL: If your
17 question is whether you'd still need the import line
18 with this reconfiguration to provide backup for loss of
19 Bipoles I and II, the answer would be yes.

20 MR. BOB PETERS: And I was looking at
21 it perhaps from a -- a different perspective. If we go
22 back to page 23 of MMF Exhibit 14.

23 Where Bipole III was available, if there
24 was a -- an outage on Bipoles I and II, that same
25 ability doesn't exist once Bipole III is loaded with

1 Keeyask and Conawapa?

2 MR. WHITFIELD RUSSELL: Correct.

3 MR. BOB PETERS: And so at that point
4 if we're going to talk to the same reliability
5 standards, are we envisioning that there's a -- a
6 further requirement, if not for the import line, a
7 further requirement for another Bipole after Keeyask
8 and Conawapa are built to improve reliability to the
9 same standard that has been -- that it's being built in
10 the first place?

11

12 (BRIEF PAUSE)

13

14 MR. WHITFIELD RUSSELL: Well, obviously
15 if we load up Bipole III with Conawapa, and Limestone,
16 and Long Spruce, and in combination with Bipoles --
17 yeah, you've got a different configuration; a loss of
18 Bipole I and II would be a very different situation
19 here, wouldn't it.

20 MR. BOB PETERS: Well, let's not get --
21 let's not get too deep into the -- into that
22 configuration, if we -- if we can, Mr. Russell. But
23 from a -- from a Manitoban's reliability requirement,
24 if Bipole III was supposed to provide a certain level
25 of reliability to us in the case of outages on Bipoles

1 I and II, that reliability, from your evidence, only
2 exists if Keeyask and Conawapa Power is not already on
3 Bipole III?

4 MR. WHITFIELD RUSSELL: Correct. And
5 it -- it -- when Keeyask comes on by itself you
6 diminish this reserve and, yes, but it disappears with
7 Conawapa.

8 MR. BOB PETERS: And if Manitobans want
9 the same reliability level after Conawapa and Keeyask
10 are constructed and after Bipole III is constructed
11 what options does Manitoba Hydro have?

12 MR. WHITFIELD RUSSELL: I think that's
13 the subject of our -- the rebuttal testimony and the
14 chart at...

15 MR. BOB PETERS: Slide 49?

16 MR. WHITFIELD RUSSELL: Forty-nine
17 (49), yes.

18 MR. BOB PETERS: All right. I'll ask
19 Diana to find, as she has, slide 49 of your PowerPoint.
20 So can you then explain your answer to
21 the Board using this chart?

22 MR. WHITFIELD RUSSELL: Yes. As the --
23 as the Board could see, without the second -- without
24 the orange line, which is the interconnection to the
25 US, the ability of Bipole III to provide reserve would

1 diminish until 2026. Then with the 300-megawatt
2 upgrade associated with Conawapa, it would prolong the
3 ability to meet the standard until 2030, and then
4 Bipole III couldn't -- couldn't do it anymore. But by
5 adding the AC intertie upgrade to the US in 2020, the
6 ability to backup the loss of Bipoles I and II is
7 extended until 2041. And I'm not sure what additions
8 are represented by the bumps at 2041 and 2044, but that
9 -- that's the general -- that's the general plan for
10 meeting that criterion.

11 But -- and I want to reiterate that --
12 that there's no indication here that the amount of
13 capacity would be firmed up with firm purchases as well
14 on the Preferred Plan. You get transmission capacity,
15 but part of the deterministic standard was that the
16 import capacity from the US also be backed up with gas
17 turbines. And this doesn't go to that issue.

18 MR. BOB PETERS: I -- I understand that
19 point. That would just layer on additional cost --

20 MR. WHITFIELD RUSSELL: Yes.

21 MR. BOB PETERS: -- if that was to be
22 the case?

23 MR. WHITFIELD RUSSELL: Correct.

24 MR. BOB PETERS: Now, instead of this
25 orange line, what would a fourth bipole look like on

1 this chart? Would it replicate -- just be slightly
2 higher than this orange line on here or would it be
3 something configured differently?

4 MR. WHITFIELD RUSSELL: Well, a fourth
5 bipole unloaded would restore the reserve at any -- or
6 increase the reserve against loss of Bipoles I and II
7 at -- at any point in time, as would an increase in the
8 import cap -- the interconnection capability to the
9 United States. They're fungible, that's my point.

10 MR. BOB PETERS: All right. I want to
11 turn to your slide 51, if I could, please. I don't
12 want to get between you and Dr. Jacobson when you're
13 fighting over some exciting things like standard TPL-
14 002, but for those of us who don't read that regularly,
15 the -- the concern that you've voiced is that the N
16 minus 1 event can occur, but firm transfers are not
17 supposed to be curtailed?

18 MR. WHITFIELD RUSSELL: That's the
19 rule. If you look at the standard, that's the general
20 rule you start with, yes.

21 MR. BOB PETERS: And you've indicated
22 Manitoba Hydro appears to have employed, or does
23 employ, some special protection systems to deal with
24 its system that could meet operating reliability
25 levels?

1 MR. WHITFIELD RUSSELL: It doesn't meet
2 the standard. What it does is it's grandfathered. And
3 MISO has grandfathered it. They're willing to live
4 with it. And it can -- so long as the amount of
5 curtailment from the SPS is not increased, it can -- it
6 can continue on. Now, that doesn't change the
7 standard, however. It -- it does not meet the
8 standard.

9 MR. BOB PETERS: All right. And in
10 terms of this Footnote B that's been talked about by
11 yourself as well as other witnesses, has NERC provided
12 an opinion or a clarification on whether the special
13 protection systems qualify under Note B?

14 MR. WHITFIELD RUSSELL: I'd be
15 surprised if there weren't some -- because the -- the
16 reliability standards do address SPS, but I have not
17 studied that. There was a dispu -- you -- you're going
18 to be surprised -- there was a contested proceeding at
19 FERC with respect to this footnote. And -- and it
20 arose because the NERC reliability standards are being
21 applied to the jurisdictional utilities, and financial
22 penalties will be imposed for failure to meet the
23 standards. So it became very important how this was --
24 was interpreted.

25 But the -- the focus was entirely upon

1 the first sentence of Note B, whether you could curtail
2 a radio customer or a local network customer connected
3 to or supplied by the faulted element. I don't see --
4 I never saw any dispute or interpretation on the SPS.

5

6 (BRIEF PAUSE)

7

8 MR. BOB PETERS: You'd indicated, Mr.
9 Russell, that you'd be surprised if the NERC hadn't
10 provided some clarification on Footnote B and whether
11 or not a special protection system is -- is --
12 qualifies under that footnote.

13 Did I understand that correctly?

14 MR. WHITFIELD RUSSELL: Yes, there are
15 a number of SPSs around the country; New England, many
16 of them in California, and there is, of course, this
17 one which is highly prominent.

18 MR. BOB PETERS: And does it change
19 your view if -- if the SPS is qualified under Footnote
20 B and accepted under Footnote b by -- by NERC?

21 MR. WHITFIELD RUSSELL: If -- if they -
22 - if they confronted the issue and addressed it and
23 resolved it, I guess that it lends some weight to
24 Manitoba Hydro's position. I'm just unaware of it.

25 MR. BOB PETERS: And is -- and I'm not

1 saying it does exist. I'm just wanting to know what
2 your position would be if it did exist.

3 MR. WHITFIELD RUSSELL: Well, it -- the
4 point is this: This is quasi-firm power. So if I'm
5 buying power from Manitoba Hydro -- we had a very
6 similar situation in California where firm transmission
7 meant quasi-firm because it was subject to an SPS and
8 had to be curtailed. So in terms of the buyer, it
9 seems to me that the use of the SPS on an N minus 1
10 transaction reduces the price that Manitoba Hydro might
11 otherwise get for that firm power. That is, if there
12 was enough AC backup to continue the transaction
13 afterwards and allow for a controlled adjustment --
14 system adjustment, I think that would increase the
15 value of the power and it could be sold for more.

16 MR. BOB PETERS: I'm going to ask one
17 (1) last undertaking then, Mr. Russell. You said you
18 hadn't done -- you weren't aware of -- of any
19 clarification in this specific situation here, and
20 don't take from my question that I'm aware of there
21 being any. But if you could just undertake through
22 your counsel to advise this panel whether or not NERC
23 has provided an opinion on whether the SPS qualifies
24 under Footnote B, that would be appreciated.

25 MR. WHITFIELD RUSSELL: Okay. I will

1 endeavour to do so if my counsel permits.

2 MR. BOB PETERS: Well, you'll have to
3 explain it to them first.

4 MS. JESSICA SAUNDERS: We were able to
5 follow. Thank you.

6 MR. BOB PETERS: It wasn't -- it wasn't
7 you, Ms. Saunders, I was concerned about.

8

9 --- UNDERTAKING NO. 149: Whitfield Russell
10 Associates to advise
11 whether or not NERC has
12 provided an opinion on
13 whether the SPS qualifies
14 under Footnote B
15

16 MR. BOB PETERS: Okay. That's enough.
17 Mr. Chairman, those are my questions of Mr. Russell and
18 Ms. Looker. I'd like to thank them very much for their
19 cooperation.

20 THE CHAIRPERSON: I have a few
21 questions that I want to resolve in my head because,
22 you know, frankly, you've been somewhat dismissive of
23 some of the evidence that we've heard in these
24 proceedings in respect of getting regulatory approval
25 in Minnesota in particular.

1 MR. WHITFIELD RUSSELL: Yes.

2 THE CHAIRPERSON: Yet we've heard lots
3 of evidence to the contrary, and now you're suggesting
4 to us that what we heard about the difficulties of
5 getting approval from Minnesota are being exaggerated.
6 And I have some problems with that because, you know, I
7 don't know.

8 Have you been before the Minnesota
9 regulator?

10 MR. WHITFIELD RUSSELL: Yes, I have.

11 THE CHAIRPERSON: In respect of
12 transmission?

13 MR. WHITFIELD RUSSELL: Yes. I've
14 testified there on a merger case of what was called
15 Primergy, which failed, and it seems to me I've
16 testified there on the Arrow headline.

17 THE CHAIRPERSON: So -- so this was a
18 recent case or --

19 MR. WHITFIELD RUSSELL: No. This --
20 the Arrow headline was -- must have been eight (8) or
21 ten (10) years ago.

22 THE CHAIRPERSON: Yeah. I guess that's
23 -- that's part of the difficulty I have, you know, it's
24 you being -- you -- you asking us to draw conclusions
25 based on the experience you've had some time ago with

1 respect to what the Minnesota regulator will do.

2 Now, I -- I grant you your considerable
3 experience in transmission issues generally without you
4 having to state your knowledge of NERC and FERC and so
5 on. But the reality is that, you know, I have to
6 believe that -- that Man -- Manitoba Hydro had to work
7 really hard to put a proposal before the regulator that
8 they think they can sell, and its partner.

9 So now you're suggesting that -- that we
10 should abandon that approach in favour of redirecting
11 energy flows within that state and so on. So increase
12 my level of confidence.

13 MR. WHITFIELD RUSSELL: All right. Let
14 -- let me say it this way, Mr. -- is it Gosselin, Mr.
15 Gosselin?

16 THE CHAIRPERSON: Yeah.

17 MR. WHITFIELD RUSSELL: The general
18 rule of thumb that all of us in this business know is
19 FERC has jurisdiction, exclusive jurisdiction, over
20 transmission, access, not -- and -- and that -- that
21 jurisdiction has been implemented through these open-
22 access transmission tariffs. They've been in place
23 since 1996 and is a well-defined and understood policy
24 by which you ask for and obtain upgrades to the
25 transmission system with a queue and application and

1 studies and milestones.

2 In fact, you know, the -- if you wanted
3 Minnesota or MISO to -- to do it, they -- they have to
4 respond to you in a specific time. If you pay the
5 bill, they have to give you the study in forty-five
6 (45) days. If you pay the next bill and you like the
7 study, they'll do the facilities design in the next one
8 eighty (180) days. And then after that, you proceed to
9 your interconnection or transmission arrangement. I
10 think it's within eighteen (18) months. So it's --
11 it's a very structured, mandatory procedure.

12 Now, if Minnesota were to inject
13 themselves into that procedure and start denying people
14 access to transmission in Minnesota on some basis
15 unrelated to FERC's primary jurisdiction, that sets up
16 a fight between those two (2) jurisdictions. There
17 have been a number over the decades I've been in the
18 business. FERC usually prevails.

19 The second is this: This issue became
20 so frustrating to the industry that Congress passed
21 something called the National Interest Electric
22 Transmission Corridor Legislation. And it's -- it's --
23 and I'll confess, it's been off to a rocky start.
24 There have been some -- some appeals which have
25 frustrated one (1) of the corridors that were

1 designated.

2 But the general rule is this. If you
3 have enough need for transmission to be built and
4 you've got a state or states which is obstructing the
5 need for this transmission, FERC, through the -- in the
6 NIETC legislation, can override that by designating a
7 corridor, and then it becomes a federal matter. It --
8 it's merely another way of reinforcing the general rule
9 that transmission is under the primary jurisdiction of
10 FERC.

11 So that's -- that's how I view the
12 posture. Yes, Minnesota no doubt could frustrate
13 Manitoba in trying to obtain transmission through
14 Manitoba, but maybe not through North Dakota, maybe not
15 through -- you know, down to Fargo.

16 So it's a -- to me, it's -- it's a
17 problem. We all litigate for a living, and we know how
18 it can hold you up and be expensive. But as a matter
19 of ultimate outcome, I have no doubt that Manitoba and
20 its opposite parties wanting to transact power could
21 make the case and get transmission service.

22 THE CHAIRPERSON: Yeah, and -- and that
23 -- you know, we're talking -- again, what you've just
24 cited to me is a generalized approach to transmission
25 in the United States and so on. But there are

1 responsibilities in -- that -- that accrue to the -- to
2 the state, relative to the responsibilities that accrue
3 to FERC.

4 I mean, for example, renewable energy
5 standards are state driven, aren't they?

6 MR. WHITFIELD RUSSELL: Oh, yes.

7 THE CHAIRPERSON: Yeah. So --

8 MR. WHITFIELD RUSSELL: Yes.

9 THE CHAIRPERSON: -- I mean, there are
10 a number of elements here that go beyond FERC's
11 jurisdiction that relate directly to the responsibility
12 of the state. And -- and in this case, the state is
13 being asked to consider a particular proposal. And you
14 can't just say, We're going to resubmit another
15 proposal expecting that there'll be a -- a counterparty
16 willing to -- to stand shoulder to shoulder with
17 Manitoba Hydro.

18 I mean, you'll -- you'll concede that
19 much, if there were -- there is at least something that
20 is available to consider in respect of what Manitoba
21 has put before us, and you're -- you're suggesting that
22 it would relatively easy to come up with another
23 proposal.

24 And I'm -- I'm having trouble with that.

25 MR. WHITFIELD RUSSELL: And -- and let

1 me say there's another middle ground here, which is
2 you've got a proposal on the ground. You've got the
3 parties that agreed to it in Minnesota and -- and Pub
4 Service and Manitoba. And if -- if you can't go
5 forward with the line as planned, you can go forward
6 with a rearrangement of the economic conditions and
7 renegotiate that, but you wouldn't change the 750
8 megawatt line.

9 I'm not saying that that's something you
10 want to do or undertake, but you don't lose the
11 opportunity to build this line simply because you alter
12 the economic terms under which it's built.

13 MS. GENEVA LOOKER: I would just like
14 to point out that at that at -- one (1) of our
15 conclusions, I believe, is that we do favour a second
16 interconnection to the US. So it is not that we are
17 anti this line.

18 MR. WHITFIELD RUSSELL: Right.

19 MS. GENEVA LOOKER: We see a lot of
20 benefits, especially reliability benefits, to this
21 line, or another line like it to the United States.

22 THE CHAIRPERSON: In this case it's not
23 available to us. I mean, we can -- we can surmise that
24 there's another proposal that could be put on the table
25 at some point, but it's either we -- we support the

1 notion of this line, or we don't support it. We -- we
2 have no alternative that -- that's before us.

3 So coming back to the original point, I
4 mean, does this line satisfy what you've -- you've
5 expressed as support for an intertie?

6 MR. WHITFIELD RUSSELL: Well, yes. I
7 think our -- our original pitch is that this AC
8 interconnection, especially one that was reinforced,
9 would have been a substitute for Bipole III. And then
10 when you get to Keeyask and Conawapa, Bipole III would
11 be a part of that -- that analysis and that incremental
12 investment required.

13 It's too late to go back and rewrite
14 history. And so how -- how you proceed from here with
15 respect to pursuing -- the -- the real issue here is
16 pursuing elements of the LCA No New Generation case
17 while still keeping that 750 megawatt line. And I
18 think there is probably room to negotiate that with
19 deferrals of Keeyask and Conawapa.

20 THE CHAIRPERSON: Now, again, I'm
21 having -- now, I'm having trouble again, because you're
22 suggesting that we pursue the new -- new generation
23 when I'd thought you conceded -- you'd agreed with La
24 Capra that that was a hypothetical case that could be
25 used to alter the mix of future generation

1 possibilities?

2 MR. WHITFIELD RUSSELL: I do agree with
3 that, yes. But we've got a -- we've got a specific
4 plan for -- for poles and wires going to the US, a 500
5 kV line, which is indispensable to the La Capra plan.
6 Where it departs from the -- Plan 17 is Keeyask and
7 Conawapa is the first element.

8 The benefits of the Plan 17 come from
9 the deferrals of Keeyask and Conawapa in-service dates.
10 That's -- that's where the real -- where the real
11 saving is. So to recast the issue here, if you find
12 the Plan 17 to be attractive, and Lord knows it needs
13 that line to make it attractive, then the -- the --
14 then the process is what can be done to preserve the
15 line while deferring Keeyask and Conawapa. That seems
16 to me what's best for Manitoba. And if that's what's
17 best for Manitoba, why -- why is that, you know,
18 hypothetically not -- not the objective and the -- and
19 the thing we should pursue?

20 Now, you -- you postulated a good
21 qualification on that. We don't know yet for sure. It
22 hasn't been a fully vetted Plan 17. So the no new
23 generation case, how -- how it fits with a deferral of
24 Keeyask and Conawapa while still maintaining an early
25 completion of the line is -- is the problem to

1 confront.

2 And I don't know the answer to that.

3 I'm sorry.

4 THE CHAIRPERSON: Thank you for those.

5 Ms. Ramage, please?

6

7 RE-CROSS-EXAMINATION BY MS. PATTI RAMAGE:

8 MS. PATTI RAMAGE: I just have a couple

9 of quick follow-up questions and some exhibits to file,

10 so don't let me sign off without doing it.

11 Now, you spoke of requesting

12 transmission service, getting in the queue, getting an

13 application, getting studies done, and that's one (1)

14 line of the process. But can you confirm, to be clear,

15 that while you're doing that part of the requirements

16 is a state certificate of NAIT (phonetic) will be

17 required from the state in which the line is physically

18 located, correct?

19 MR. WHITFIELD RUSSELL: Typically, yes.

20 Yes.

21 MS. PATTI RAMAGE: Okay. And in terms

22 of that queue and application and studies, would you

23 accept that Manitoba Hydro went into the queue for this

24 particular project in 2008, that would be six (6) years

25 ago, to get to this point?

1 MR. WHITFIELD RUSSELL: Yes. And --
2 and I made the point earlier that by virtue of your
3 position in the queue you're going to get the benefit
4 of a lot of transmission capability without any upgrade
5 cost. We -- I recognize that.

6 MS. PATTI RAMAGE: Okay. And when we
7 look at the article from Megawatt Daily, and it says
8 that:

9 "A group of Minnesota utilities is
10 urging the PUC to consider an
11 alternative to the Great Northern
12 Transmission Project. Great River
13 Energy, Missouri River Energy
14 Services, NSP, Minnesota, and Otter
15 Tail Power want the PUC to more
16 closely study an alternate project
17 that would run into the -- run to
18 Manitoba along Minnesota's western
19 border."

20 They do not have anything in the queue
21 right now, correct?

22 MR. WHITFIELD RUSSELL: I don't know.

23 MS. PATTI RAMAGE: Okay.

24 MR. WHITFIELD RUSSELL: But they
25 certainly have -- the east-west portion of it is in the

1 queue of being built. In other words, when you get
2 down to Fargo the capex project is under development
3 and portions of it are complete. So they don't need
4 anything in the queue. They finished the queue on that
5 leg of the triangle.

6 MS. PATTI RAMAGE: And when -- when tho
7 -- if we assume those utilities wanted to move forward
8 and involve Manitoba Hydro, Manitoba Hydro would have
9 to be part of, for lack of a better term, the solution,
10 correct? It would have to be beneficial to Hydro, too?

11 MR. WHITFIELD RUSSELL: Yes.

12 MS. PATTI RAMAGE: And so when we're
13 looking at a project right now that is over six (6)
14 years in the making, you're suggesting that we start
15 all over with a group of utilities that have not put
16 anything down; there -- there's nothing solid to -- to
17 move forward with right now; it's an idea?

18 MR. WHITFIELD RUSSELL: I -- I don't
19 know where that is. That's correct.

20 MS. PATTI RAMAGE: Okay. Thank you.
21 Oh, and some exhibits. We have two (2) exhibits to
22 enter before we adjourn for -- till final argument.
23 We'll adjourn the evidentiary portion. I'll get those.
24 I will pass them out.

25 But they're -- one (1) is Manitoba Hydro

1 Exhibit 154. It is our Undertaking number 74 revised.
2 This is an undertaking given to the MMF, and they
3 requested additional information be included in it, so
4 we've revised that exhibit and we'll be distributing
5 that.

6

7 --- EXHIBIT NO. MH-154 REVISED:

8

Response to Undertaking 74

9

10 MS. PATTI RAMAGE: The other is
11 Manitoba Hydro's response to Undertaking number 142.
12 That will be Exhibit 201. And that is dealing with the
13 -- the section in the contract saying the contracts
14 will require Keeyask. This is a redacted version of
15 that undertaking. There will also be a CSI version of
16 that filed.

17

18 --- EXHIBIT NO. MH-201: Response to Undertaking 142

19

20 THE CHAIRPERSON: I believe that
21 completes today's proceedings. So that's it for the
22 evidence that we're going to hear. And then what's
23 left for this panel is presentations from the public
24 and closing arguments from the parties.

25

So on behalf of the panel I'd like to

1 thank both of you for attending today and for having
2 contributed to these proceedings. And I hope that you
3 have a safe trip back home. So I know that this has
4 been a difficult project for you, as it has been for
5 other participants in this process, so thank you very
6 much for your work so far.

7 And, everyone else, we'll see each other
8 again on next -- next Tuesday, I believe.

9 MR. WHITFIELD RUSSELL: Thank you.

10 MR. BOB PETERS: That would be the 20th
11 of May.

12 THE CHAIRPERSON: Thank you. Okay.
13 With that, have a good evening, everyone, and we'll see
14 other again next week.

15

16 (PANELS STANDS DOWN)

17

18 --- Upon adjourning at 4:41 p.m.

19

20 Certified Correct,

21

22 _____

23 Cheryl Lavigne, Ms.

24

25

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